SCIENTIFIC PSYCHOLOGY AND NAIVE PSYCHOLOGY

J. KREMERS

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PROMOTOR:

PROF. DR. F. J. TH. RUTTEN

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AN EXPERIMENTAL INVESTIGATION INTO THE INFLUENCE OF THE STUDY OF PSYCHOLOGY ON THE PRACTICAL KNOWLEDGE OF MAN

ACADEMISCH PROEFSCHRIFT

TER VERKRIJGING VAN DE GRAAD VAN DOCTOR
IN DE LETTEREN EN WIJSBEGEERTE AAN DE
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JOHAN KREMERS
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THEME OF THE INVESTIGATION

It is often assumed that psychologists have more practical knowledge of man than have non-psychologists, a difference put down to the former's special training. The psychologist-to-be is taught to distinguish sharply between a variety of behaviour forms, he receives a training in observation and diagnosis. In many ways his attention is focussed on relevant variables. Besides, his studies present him with a wide theoretical knowledge of psychological problems more or less connected with the assessment of his fellow-men.

It is not only the outsider, however, who starts from the assumption that the practical knowledge of man will increase under the influence of the study of psychology. The same view is found among professional psychologists. William Stern calls this practical knowledge of man *a conditio sine qua non* for a fruitful study of psychology. According to him this "natural knowledge of man" may find its full development in the study of psychology:

"Ein Psychotechniker, der das ihm abgehende Fingerspitzengefühl für die Eigenart anderer Menschen durch schematische Testprüfungen glaubt ersetzen zu können, verfehlt den Sinn seiner Aufgabe. Praktisch-psychologische Arbeit ist eben nicht nur eine Technik, sondern zugleich eine Kunstübung; wer zu dieser Kunst den Funken nicht in sich spürt, der lasse den Finger davon. Wo aber der Funken vorhanden ist, kann er durch wissenschaftlich psychologische Schulung angefacht werden; denn der "psychologische Blick" ist nicht eine starre Grösse. Der praktische Psychologe muss also über den blossen Routinier hinausragen durch psychologische Erkenntnis, die ihm organisch geworden und dadurch in seine verstehende Menschenerkennung und Behandlung eingegangen ist" (177, p. 62) *.

Some investigators in the Anglo-Saxon countries are less optimistic about the influence of the study of psychology on the practical knowledge of man. Murray even holds that a scientific schooling will diminish the ability to judge others:

"The temperament and training of a scientist lead him to rely on analytical perception and rational induction and to repress emotion and feeling; and I suspect that it is just this repression when it becomes automatic that so diminishes his ability to aperceive psychological events" (142, p. 246).

* The figure behind the name of an author or the title of a publication refers to the corresponding number in the list of references. Alternatively the appropriate figures may be given in a footnote.

Watson endorses this view, although on different grounds. He thinks that the isolated existence of many psychologists – and of many clinical psychologists in particular – prevents them from having an open eye for the life-experience of their fellow-men whom they endeavour to know.[197]

Also, United States investigators have tried to find an experimental answer to the question as to how far the study of psychology will influence the ability to judge others. * They almost unanimously concluded that the study of psychology does not positively influence the practical knowledge of man. ** The outcome of some of these experiments even strongly suggests that non-psychologists are more able to give a correct judgment of their fellow-men than are students of psychology and even clinical psychologists. *** These findings, surely hardly expected by anybody, do not unreservedly apply to the psychologists' training in the Netherlands. The training of psychologists in America differs in many respects from the European training. Moreover, owing to shortcomings in the methodical planning of part of the said experiments, their findings must be considered as questionable.

The question as to the influence of the study of psychology on the practical knowledge of man constitutes the object of the present investigation. First, we shall try to establish whether the study of psychology adds to the practical knowledge of man. Next to this, the question will be considered whether – and if so, to what degree – the study of psychology will influence the way in which our judgment of others is achieved.

In Chapter I the theme of the investigation is stated more explicitly and set out in the form of 6 problems. In Chapter II a description and justification of the experimental set-up is given. Chapter III gives the results of the investigation, with a discussion of their significance.

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* 32, 51, 62, 94, 113, 132, 133, 152, 154, 172, 183, 184, 199.
** 32, 51, 94, 113.
*** 62, 132, 133, 199.

CHAPTER I

PRESENTATION OF THE PROBLEM

The theme of the present investigation as stated. In the introduction is: the influence of the study of psychology on the ability to judge people without the use of data gathered by means of tests. We shall call this ability: practical knowledge of man. In Chapter II, § 2 we shall give our operational definition of this practical knowledge of man. It is measured by determining the subject's ability to predict the behaviour of a given person to be judged by him in a variety of situations.

Problem 1

Does the senior (i.e. advanced) student of psychology possess a better practical knowledge of man than the senior student of another discipline?

If there is a difference it could be put down to:

a. the choice of psychology as a branch of study;

b. the influence of the study of psychology.

So first we have to find out whether a possible difference regarding the factor "practical knowledge of man" did not already exist before the subjects had taken up their studies.

These questions exclusively refer to the correctness of the judgment of others. At the same time we shall try to determine whether the study of psychology has any influence on the way in which such judgments are formed. The answer to this question will partly contain the explanation of the answer to Problem 1.

Problem 2

Does the senior student of psychology, when judging his fellowmen, use categories different from those used by the senior student of another discipline; does he, perhaps, use more or less categories than the latter? Does the value attached by him to certain categories of judgment differ from that attached to the same categories by the senior student of another discipline? Should any difference in the use of judging categories be put down to the study of psychology or must we ascribe it to the choice of psychology as a branch of study?

To answer this question, we shall examine whether the senior student of psychology, when observing and judging people, considers the same factors to be relevant as does the senior student of another discipline. If this should turn out to be so, we then have an indication for the way in which the judgment is influenced by the study of psychology. Such an outcome might also supply us with an explanation of the answer to Problem 1. By mathematical reasoning as well as through experimental investigations Cronbach and Crow concluded that if the variability and differentiation of a person's judgments increase whereas his ability to give correct predictions does not, the number of his false predictions tends to increase. * So if it could be demonstrated that senior students of psychology, when observing and judging a person, proceed with more subtle differentiation and greater variability than senior students of other disciplines, this might throw light on the results obtained for Problem 1.

Problem 3

Is the tendency to ascribe one's own probable reaction to others less strong with the senior student of psychology than with other senior students? If there is a difference should it be put down to the choice of psychology as a branch of study or must it be ascribed to the influence of the study of psychology?

We started from the assumption that, during the years of his schooling, the psychologist-to-be receives among other things a training in observation and is taught to interpret his observations. The correctness of his behaviour interpretations becomes less if he tends to ascribe his own probable reactions to others, overlooking the fact that we are concerned here with a judgment on the behaviour of *others*. A possible discrepancy with regard to this tendency between students of psychology and other students might also throw light on the answer to Problem 1. In Chapter III we shall revert to this. **

Problem 4

Is the senior student of psychology when giving his judgment on a person less sure than the senior student of another discipline? Should such a difference be put down to the choice of psychology as a

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* 47, p. 181; 51, p. 355.

** This tendency to ascribe one's own probable reaction to others is often indicated in psychological literature by the term "projection", – in our opinion not quite justifiably so, since in psychology the term "projection" is entitled to a wider meaning.

branch of study or must it be attributed to the influence of the study of psychology?

In the experiment the subjects are requested to predict the behaviour of a given person in a number of situations, even if they think they do not possess sufficient information to give such a judgment. The expectation seems justified that a psychologist, exactly because of his studies and his specific schooling, will be aware of the relativity of each judgment of people. For this reason it is likely that in an experimental situation a senior student of psychology will hesitate to give his judgment on a given person, especially if the information at his disposal is limited and is even considerably less than the information usually available to him in his psychological activities.

Problem 5

Is there a relation between the conviction with which a judgment on someone else is given and the correctness of that judgment? If so, is this relation more manifest with the senior student of psychology than with the senior student of another discipline? Should any difference be put down to the choice of psychology as an object of study or must it be ascribed to the study of psychology?

It is not impossible that the psychologist, though prudent in his predictions about people, forms a clear-cut picture of certain traits which enables him in particular situations to give correct predictions with great certainty. It may, therefore, be useful also to investigate the relation between the correctness of a judgment on the one hand and the conviction of the judge on the other.

Problem 6

Is the senior student of psychology rather than the senior student of another discipline inclined to infer from a given piece of information about a person indications apt to influence the picture he has formed of that person? Should any difference be put down to the study of psychology or must it be ascribed to the choice of psychology as a branch of study?

These questions refer to the stability of the already formed picture. It will be investigated whether the picture undergoes a change under the influence of any additional information; we shall also examine how the conviction underlying the judgment changes under the influence of additional information.

CHAPTER II

METHOD OF PROCEDURE

§ 1. *Experimental set-up*

The experiment providing the data which made it possible for us to answer the problems set forth in Chapter I, was done as follows:

In a number of experimental sessions the subjects were confronted with one and the same person to be judged by them. The subjects were divided into six groups of various backgrounds, the individuals in each group having a similar background. Each session was attended by subjects belonging to various experimental groups. During all sessions the person to be judged behaved in exactly the same manner. At each session the same two tasks appointed to him by the experimenter were performed by him in exactly the same way. The first task consisted in choosing an assistant from two candidates on the strength of given qualities, and in explaining his choice. The second task was, to give his opinion about the place of labour in life (see Appendix 1). In this way the subjects had an opportunity to observe the person to be judged for about 15 minutes. Making use of the information thus obtained, each subject described the person to be judged with the help of a Q-sort. Next, all subjects predicted the behaviour of the person to be judged, in 25 behaviour alternatives. To indicate the degree of certainty in their predictions of his behaviour they used the following scale:

9	I am *absolutely certain* that my prediction is correct.
8	
7	I am *practically certain* that my prediction is correct.
6	
5	I *strongly believe* my prediction to be correct.
4	
3	I *suppose* my prediction is correct.
2	
1	My prediction *may also be wrong.*

Then, on a piece of paper, new information about the person to be judged was introduced. The additional adequate information was: "He is a man from the South and the eldest son in a family of five children." After this, the subjects once more predicted the behaviour of the person to be judged in the 25 behaviour alternatives, again stating the degree of certainty of their predictions. Finally, all subjects gave their own probable behaviour in the 25 situations, indicating the degree of certainty in their predictions.

The experimental sessions lasted about two hours each. The person to be judged was present throughout each session. Having provided the information (Appendix 1), he started reading a book without further saying or doing anything.

In the next sections of this chapter follows an extensive motivation of our composition of the Q-sort, of the selection of the behaviour alternatives, of the subjects, of the person to be judged, of the information to be given to the latter, and of the criterion for the correctness of the behaviour predictions.

§ 2. *Operational definitions of the concepts "practical knowledge of man" and "the study of psychology"*

In the present report on our investigation the term *practical knowledge of man* stands for the ability to give correct predictions on concrete human behaviour as manifested by a particular individual in particular situations, *the study of psychology* for academical studies in psychology at Nijmegen University, extending over at least five years.

§ 3. *Composition of the Q-sort*

The categories handled by the subject when judging others can be determined with the help of the Q-method. [176] The Q-method makes use of a fixed number of descriptive adjectives. The subject receives the instruction to describe the person to be judged by means of these adjectives. He ranks the adjectives – presented to him one by one on single cards – according to a given frequency distribution. Adjectives that are very characteristic of the person to be judged are ranked high and are given high numbers, adjectives the opposite of which is characteristic of the person to be judged are ranked low and given low numbers. Adjectives about which the subject is in doubt or adjectives which he thinks fairly irrelevant, take up a half-way position. The subjects were told to rank in

this way 80 adjectives of description according to the following frequency distribution:

Score:	10	9	8	7	6	5	4	3	2	1	0	
Frequency:	2	4	6	9	12	14	12	9	6	4	2	(80 in all)

Score 10 was accorded to the 2 adjectives which were most characteristic of the person to be judged ("that he certainly is"), score 0 was accorded to the 2 adjectives which were least characteristic of him ("that he certainly is not"). Score 9 was accorded to the 4 adjectives which on the positive side were a little less characteristic of the person to be judged than were the 2 adjectives scoring 10 marks, and so on. The Q-sorts thus obtained were intercorrelated for each single experimental group. All intercorrelations of the subjects in a given group were laid down in the correlation matrix of that group. On these correlation matrices a factor-analysis was applied according to the Thurstone centroid method. [187]

A limitation of the Q-sort technique is in the selection of the adjectives. The angle from which the person to be judged – acting in a certain way – can be described, remains restricted to the adjectives chosen. The Q-technique does not admit of handling more or other categories than those laid down beforehand in the list of adjectives. Of this limitation we should remain aware when interpreting the results; it was not, however, a serious handicap for our work. The list is fairly comprehensive and, besides, the questions which have our main interest are (a) whether or not different categories were used in the various groups and (b) whether or not the values attached by the various groups to each single category are different.

For the composition of our list of adjectives we made use of – *inter alia* – Gough's "Adjective Check List". * We selected 80 adjectives in all.

List of the Q-sort adjectives **

1. distractible	5. modest	9. dumb
2. adventurous	6. irresolute	10. dreamy
3. timid	7. reliable	11. sincere
4. helpful	8. thick-skinned	12. solitary

* Dutch translation of the "Instituut voor Klinische en Industriële Psychologie" at Utrecht, Netherlands.

** The Dutch version of these 80 terms of description is given in Appendix 7.

13. opinionated
14. emotional
15. energetic
16. serious
17. imaginative
18. high-strung
19. narrow-minded
20. witty
21. affected
22. warm
23. even-tempered
24. uncommunicative
25. sociable
26. good-natured
27. cordial
28. courteous
29. moody
30. industrious
31. impulsive
32. intelligent
33. short-sighted
34. critical
35. artistic
36. rude
37. lazy
38. masculine
39. conscientious
40. nervous
41. hard-headed
42. unemotional
43. open
44. submissive
45. dishonest
46. impatient
47. ill-mannered
48. awkward
49. thoughtless
50. unoriginal
51. unsympathetic
52. indifferent
53. uncertain
54. frank
55. cheerful
56. pliable
57. practical
58. broad-minded
59. quiet
60. dull
61. spontaneous
62. surly
63. tenacious
64. versatile
65. shy
66. rational
67. absent-minded
68. effeminate
69. resourceful
70. tractable
71. prejudiced
72. formal
73. kind
74. bold
75. fickle
76. self-confident
77. complacent
78. independent
79. careless
80. pessimistic

§ 4. *Behaviour alternatives to which the predictions refer*

The literature on the subject reports a number of methods for measuring the ability to judge people. The most important among them are: *

a. Judging emotional expressions

By means of a film, drawings or photographs a number of emotional expressions are presented to the subject, which he is requested to judge. This he can do either by giving a spontaneous description or by choosing from among a number of alternatives. As a rule the criterion for the correctness of the subject's judgments is the intention of the photographed persons at the moment the pictures were made, or the judgments of experienced psychologists on those expressions. This method – sometimes slightly modified – is found with F. H. Allport [2], F. H. Allport and G. W. Allport [3], Buzby [32], Coleman [46], Fernberger [66], Fields [69], Gates [79], Guilford [90], Jenness [106], Kanner [109], Kellogg and Eagleson [112], Vernon [193], Walton [196], Wedeck [198].

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* For a complete survey see: Notcutt, B. and Silva, A. L. M., Knowledge of other people. *J. Abnorm. Soc. Psychol.*, 1951, *46*, 30-37; Taft, R., The ability to judge people. *Psychol. Bull.*, 1955, *52*, 1-21.

b. Tracing personality traits and providing personality descriptions

The subject is supplied with certain information about the person to be judged, with the help of which information he is either to give a personality description of the person to be judged or to trace particular personality traits of this person. As sources of information may serve, among other things, a short interview with the person to be judged or the observation of this person in a standardized situation. The main difficulty when using this method is to find an objective criterion: on what grounds can one decide that a given personality description or personality trait, does, indeed, both qualitatively and quantitatively apply to the person to be described? The criteria most frequently used are the judgments of people considered to be very good judges or intimately acquainted with the person to be judged. Often, too, certain test results of the person to be judged are used as standards of reference. With numerous modifications this method was used by Adams [1], F. H. Allport and G. W. Allport [3], Argelander [10], Baker and Block [14], Bender [17], von Bracken [27], Cogan, Conklin and Hollingworth [44], Estes [62], Ferguson [65], Frenkel-Brunswik [73], Green [86], Kelly and Fiske [113], Newcomb [144], Norman [145], OSS Assessment Staff [149], Sears [164], Taft [184], Valentine [191], Vernon [193], Wedeck [198], Wolf and Murray [202].

c. Predicting test results or events from the life of the person to be judged

The judge disposes of certain information about the person to be judged and is instructed to predict either the behaviour of the latter in a number of tests or his answers in personality and attitude inventories. Sometimes, too, he is requested to predict certain actual events from the life of the person to be judged. The advantage of this method is the presence of objective criteria: the factual answer to the test item, the real behaviour of the person to be judged, and the actual events in his life. However, a disadvantage attaching to this method – and, to a less extent, to the methods *a* and *b* – is the danger of projection. This danger was signalled by Hastorf and Bender [95]. The concept "projection" is defined by them as " . . . the attribution to others of one's own needs, interests and attitudes". In case of projection the prediction score may be influenced by a chance similarity between the judge and the person to be judged. Gage pointed to the danger of arriving at correct predictions by the use of culturally stereotype answers without, however, predicting the answers of this particular individual to be judged [76]. This method was used by,

among others, Bender [17], Bender and Hastorf [19], Chowdhrey and Newcomb [41], Crow [51], Dymond [58], Gage [76], Hanks [94], Kelly and Fiske [113], Kelly, Miles and Terman [114], Leventhal [126], Luft [133], Notcutt and Silva [148], Polansky [152], Rabin [154], Scodel and Mussen [163], Sweet [181], Taft [184], Tobolski and Kerr [188], Travers [189], Vernon [193], Wallen [194], Wedeck [198], Wedell and Smith [199].

d. Miscellaneous forms

Besides these methods there exist a number of techniques to measure in an indirect way the ability to judge others. Most of these measures have been validated against one of the previously mentioned methods *a*, *b* or *c*, for instance: Dymond's "empathy index" based on the TAT [59], Walton's "generalized empathy test" [196], McClelland's "role-playing empathy scale" [135], Moss's "social intelligence test" [141] and the Kerr and Speroff "empathy test" [115].

None of these methods was, without modifications, suited for the present investigation; partly because of the fragmentariness of the field of research (method *a*), partly because, if some of these methods (especially method *b*) were used, subjects who are psychologists would have the advantage over other subjects; partly, too, because the criteria depended very much on subjective interpretation. Therefore, it was necessary to design a method combining a minimum of these disadvantages. We had the subjects in our experiment predict the behaviour of the person to be judged in certain carefully selected everyday situations. Our method may be regarded as a modification of method *c*, which has the subjects predict the performances of the person to be judged in various test items or inventories. In order not to favour the psychologists, we replaced these tests and inventories by universally human behaviour alternatives. We shall see afterwards that this method will also enable us to increase the objectivity of the criterion significantly.

We may ask ourselves whether the ability to judge others does not include more than the mere prediction of universally human behaviour of the person to be judged in a large number of alternatives. A personality description or an outline of the personality structure presented by the subject could be at least equally important. For an experimental psychological investigation, however, this method seemed, for the present, less suitable. It would unavoidably have led to the use of a subjective criter-

ion. Moreover, the more a subject is able to form an adequate picture of the personality structure of the person to be judged, the greater his ability will be to give correct predictions of that person's behaviour in those everyday situations. For this reason we thought it would suffice if we measured the judging capacities of our subjects on the strength of those behaviour predictions alone. Our view is supported by Luft:

"Such prediction may be ordered to the more general category of social anticipation or expectancy, which is of such crucial importance in social interaction. Our daily lives as individuals and as members of groups depend on our ability to anticipate to some degree how other persons will behave. Our inability to predict the behavior of others indicates a failure to understand and tends to result in a breakdown of communication and interaction" (131, p. 116).

Wallin, too, followed this line of thought:

"The ability to identify the personality characteristics of a subject is a major aspect of the prediction process and – all other things being equal – persons possessing this ability will be better predictors of individual behavior" (195, p. 226).

Sarbin even went so far as to deny that there would be any point in diagnosis in clinical psychology unless this diagnosis refers to a behaviour prediction. He wrote:

"In examining the concept of diagnosis, evidence is presented which supports the notion that a diagnostic statement has meaning only when it has a referent in the future; i.e. when it provides a prediction of behavior" (162, p. 521).

For the present investigation we selected a hundred behaviour situations, and formulated two alternative solutions for each situation. In a slightly modified form some of these behaviour situations are found in existing tests and personality inventories; others were devised by us. The kind of behaviour to be predicted was to meet the following requirements:

a. It had to be universally human behaviour, occurring in everyday life. The behaviour was to have no specifically psychological relevancy, such as the way the person to be judged behaves in tests, personality inventories, etc.

b. The answer (*a* or *b*) must not be known by direct information.

c. It must be possible to verify the answer (*a* or *b*).

d. The categories (*a* and *b*) had to be mutually exclusive; in other words, *a* was to exclude the possibility of *b* and vice versa.

e. The chance margin for the prediction of the behaviour categories (*a* and *b*) must be known. With a chance margin of 100% for one of the two behaviour alternatives – *a* or *b* – a correct prediction does not necessarily have predicting value.

The hundred behaviour choices that were the starting-point of the present investigation

1. You go to a lecture – or a meeting – but on entering the room you see that the programme has started already; people are standing at the back while there are several vacant seats in the front rows:
   a. do you step forward and take a front seat – if you can do so without being rude to the speaker although not without being clearly noticed by the audience?
   b. do you remain standing at the back?
2. You are attending a lecture; the audience consists of more than 30 people. You do not agree with the speaker:
   a. do you stand up and tell him so?
   b. do you remain silent during the lecture and communicate your objections to your neighbour afterwards?
3. Your wife is going to a fashion show where ladies' dresses as well as men's clothing will be shown. She asks you to accompany her:
   a. do you go?
   b. do you not go?
4. Your drawing-room needs repapering. Your wife has ordered a pattern-book. When selecting the kind of paper you are going to buy:
   a. does your wife's judgment turn the scale for you?
   b. does your own?
5. Which do you prefer:
   a. thrilling films (e.g. with crime interest)?
   b. romantic films (e.g. with love interest)?
6. When meeting in a group of people someone you have the impression of having met before:
   a. do you ask him whether you have met before?
   b. do you wait until he asks you?
7. When you have been witness to an accident and the police ask you to give evidence:
   a. do you appear as a witness?
   b. do you try to back out of it?
8. When there is a travelling salesman at your door trying to sell you an article you are not interested in, singing its praises:
   a. do you cut him short and tell him you have no use for it?
   b. do you allow him to finish his patter and then explain to him why you are not buying his article?
9. A friend of yours with whom you are not on intimate terms is the possessor of something you would very much like to borrow from him (e.g. a pair of skates):
   a. do you ask him to lend them to you?
   b. do you not ask him?
10. There is a blind man at your door selling brushes – but you don't really need a brush just now and you think, too, that it is rather expensive:
    a. do you nevertheless buy a brush from him?
    b. do you not buy one?
11. When receiving your pay-packet:
    a. do you always check the calculation of your wages?
    b. do you omit the checking and trust the calculation to be correct?
12. A shopkeeper is doing his best to talk you into buying a certain article. Still, you are not convinced:
    a. do you buy the article in order to get rid of the shopkeeper?
    b. do you not buy?

13 You enter a shop where the shopkeeper is having a chat with another customer This conversation threatens to become a protracted affair
   a do you interrupt the conversation and ask the shopkeeper to help you first?
   b do you wait until they have finished and then make your purchases?
14 You want to buy an expensive article (e g a television set), but the money you have put aside is not yet sufficient
   a do you postpone your purchase for a couple of months until you have the total sum at your disposal?
   b do you buy it now, in instalments, which will cost you considerably more than the normal price?
15 You are planning to take out a rather large insurance policy
   a do you consult several agents and study the folders?
   b do you go by the advice of someone you trust?
16 You are planning a holiday-trip abroad
   a do you consult several tourist agencies?
   b do you go by the judgment of a good friend who has made a similar trip before?
17 You want to make a holiday-trip
   a do you join a party of strangers (e g on a conducted tour), which is a comparatively cheap way of travelling?
   b do you go with your wife (or fiancee) – just the two of you, which is considerably more expensive?
18 You are sitting in a crowded bus When you try to get out at a stop, people are blocking the exit so that the driver goes on again before you have been able to alight What will you do
   a ask the driver to stop again?
   b ride on till the next stop, which is about 500 yards down the road?
19 You are at a party where about half of the guests are friends of yours Things are getting very dull and you have thought of something to liven things up a bit
   a do you come out with it and take the lead?
   b do you keep it to yourself and let things be?
20 You are at a party where there are round games going on for which you do not care
   a do you just join in?
   b do you try and find a pretext not to have to?
21 You are at a party which is beginning to bore you
   a are you the first to leave, although you know you are being a kill-joy?
   b do you wait till someone else takes the initiative, thus running the risk of being kept for another hour and a half?
22 You are buying a rather expensive article at a well-known shop You are willing to pay cash on the condition that you are granted a 10% cash discount, but the salesman does not agree to that
   a do you nevertheless buy the article at this shop without having been given the cash discount?
   b do you go to another firm, where you have never been before but which is willing to grant you the cash discount?
23 How do you spend your holiday bonus
   a by paying for your holiday with it?
   b on other things?
24 When you watch a football match as a supporter of one of the two teams, where do you station yourself
   a among the supporters of your own club?
   b anywhere?

25. When watching a football match between two clubs unknown to you, which side do you tend to favour:
    a. the stronger?
    b. the weaker?
26. The son of your neighbour, whom you do not see much, is going to marry and you have received an invitation for the wedding reception:
    a. do you go?
    b. do you send your congratulations (maybe with a present) by post?
27. Your wife (or fiancée) has her birthday:
    a. do you buy her a present yourself?
    b. do you give her money to make her own choice?
28. When you promise a person to post a letter for him, do you usually do so:
    a. within 24 hours?
    b. after 24 hours?
29. You have been told by others that an acquaintance of yours has been gossiping about you – not seriously but still, he shouldn't have done it. This acquaintance is your equal in every respect:
    a. do you tell him the truth and have it out with him?
    b. do you let things be?
30. You are in the company of people who start gossiping about one of your friends:
    a. do you stand up for your friend?
    b. do you let things pass?
31. The plumber has let you down for the second time after arranging with you to come and do some repairs to the roof:
    a. do you make a third appointment after the plumber has apologized ?
    b. do you go to another plumber?
32. You have had a very tiring day and you are returning home by bus. The bus is overcrowded and although there are several ladies standing you decide to keep to your seat. You overhear one of the ladies remarking on this fact to her companion. What do you do:
    a. get up and offer your seat after all?
    b. remain seated?
33. You are sitting in an overcrowded railway compartment between two young men who are considerably younger than you are. An elderly lady gets in and has to remain standing. Neither of the young men seems prepared to offer his seat. What do you do:
    a. offer your seat to the lady without comment?
    b. remain seated and eye the young men reproachfully or show your discontent in some other way?
34. Every month your salary leaves you with £ 1 in hand:
    a. do you take the money to the savings bank?
    b. do you consider it as a welcome extra on your budget and spend it as such?
35. What would you do:
    a. buy one good tie which lasts a year and costs £ 1?
    b. buy two ties, each costing 10s. and lasting only half a year?
36. Which do you prefer with your breakfast:
    a. meat?
    b. such things as jam, flaked chocolate, etc.?
37. You like to have your hair well cut but you hate shampoos. You have found the right hairdresser at last; he has given you three times a perfect haircut and each time he has tried to sell you a shampoo in vain:

a. do you keep on going there and take his officiousness in the matter of shampoos in the bargain?
b. do you leave him for a less officious hairdresser at the risk of having to content yourself with a less perfect haircut?

38. You need a bicycle to go to your job. You never use it more than half an hour daily. Which will you do:
a. buy an expensive, really splendid cycle with all sorts of appliances (such as a three-speed gear etc.)?
b. buy a reliable bike without any of these accessories?
39. Within the first five minutes of a written examination you have already realized that you will not be able to answer a single question:
a. do you leave immediately?
b. do you wait till the others have handed in their papers?
40. When you have promised your assistance at a children's party on Christmas Day, which part would you preferably play:
a. Santa Claus?
b. his black servant?
41. Your wife (or fiancée) wants to knot a Turkey carpet; the job will keep both of you busy for two evenings a week during the whole coming winter:
a. will you help her faithfully till the carpet is finished?
b. will you try to dissuade her from her purpose because you have no intention of helping her but hate the idea of her doing the job all alone?
42. One of your colleagues at the firm you are working with is to have a jubilee very soon:
a. are you the one to take the initiative and make a collection among your other colleagues in order to buy him a present?
b. do you just wait and see what the others will do and if nothing happens offer the happy man your personal congratulations?
43. Your neighbour with whom you are on mere nodding terms has a dog that has the habit of barking all through the night:
a. do you make a complaint to your neigbour?
b. do you put up with the discomfort for the sake of dear peace?
44. You have decided to take a course on a subject the mastering of which will enable you to gain promotion in the firm for which you are working. After some time the course no longer answers your expectations: you had expected it to be far more interesting:
a. do you continue with it?
b. do you give up the course and spend the hours thus set free in doing such social work, club work, corporate work etc. as will add to your social prestige and thus increase your chances for promotion that way?
45. You are sitting in a railway compartment with some strangers all of whom are by far your seniors. You are about to light a cigarette when you discover you have no matches on you:
a. do you ask one of your fellow-travellers for a light?
b. do you putt off your smoke?
46. You wake up at night to the sound of the telephone. When you have struggled out of bed and lifted the receiver, the caller turns out to have dialled a wrong number:
a. do you tell him off?
b. do you accept his apologies without any fuss and go back to bed?
47. The firm where you are employed needs a new personnel manager. The management has the choice between two candidates: Johnson, a very capable man, who knows the firm inside out but who is not much respected by the workers. Smith, the

other candidate, is far less capable but he holds a high office in his trade union and his prestige with the workers is very high. Whom would you choose:
a. Johnson?
b. Smith?

48. You are looking out for another grocer; you have the choice between two candidates: one, Brown, is quite near; his is a big shop offering you every possible service except that of delivering the goods at your door. The other, Dooley, is some 500 yards down the road; he has only a small business. You know Mr. Dooley only superficially but you have been told he is not so very well off. He does not deliver at your door either, but sometimes his prices are lower. Whom do you choose:
a. Brown?
b. Dooley?
49. You are walking down the street on a rainy day. A passing car splashes you all over with mud. The driver gets out, apologizes and tells you he did his utmost to avoid the puddle:
a. do you accept his apologies without any more ado?
b. do you accept his apologies on condition that he pays the dry-cleaner's bill?
50. You are in the cinema and a lady with a big hat is sitting directly in front of you. As a result it is difficult for you to follow the film, even when keeping your head sideways all the time:
a. do you ask the lady to take her hat off?
b. do you resign yourself to the inconvenience?
51. One of your best friends is giving a birthday party. You are not among those invited:
a. do you ask him afterwards why he did not invite you?
b. do you ignore the matter?
52. You lend your neighbour a rather valuable book. One of his children tears out a leaf and throws it into the fire:
a. do you claim a new book?
b. do you accept your neighbour's honest apologies?
53. You form part of a group charged with the organization of something:
a. would you like to take command?
b. would you rather have someone else do so?
54. You are making plans for a holiday abroad. You can choose between settling in one place and making day trips from there – or a tour visiting several places. Which do you choose:
a. to stay in one place?
b. the tour?
55. When you really get angry with someone:
a. can you stay cross with him or her for long?
b. do you soon forget it?
56. Would you find it difficult to tell some ten or twelve jokes from memory:
a. yes?
b. no?
57. Do you regularly solve cross-words or other puzzles:
a. yes?
b. no?
58. You have broken the rules of the road. A policeman is taking down your name and address:
a. do you answer him civilly?
b. do you answer him in a curt and unfriendly fashion?

59 You are in company and you have a craving for a cigarette There is only one cigarette left in your cigarette case, so you cannot offer a smoke to the rest of the company
   a do you nevertheless light it?
   b do you refrain from smoking?
60 You are sitting in a very stuffy railway compartment You would like to open a window but you are afraid that some fellow-travellers will object because of a possible draught
   a do you open a window?
   b do you leave it shut?
61 Cycling home late at night, you arrive at a red traffic light, you notice no one at this crossing
   a do you observe the rules and wait till the light turns to green?
   b do you ignore the red light and ride on?
62 You are going to the cinema When you arrive it turns out that you have been mistaken about the time The first part of the programme is already over and the feature film has started more than five minutes ago
   a do you still go in?
   b do you not go in?
63 You want to see a film but when you are in the box-office queue you discover you have no money on you There is someone in front of you who lives in your neighbourhood but whom you know only by name
   a do you explain the situation to him and ask him to lend you the money?
   b do you give up your plan?
64 You are sitting in a bus carrying you to the station where you are to catch a train You will probably be only just in time At one of the last stops, however, somebody is very slow in getting in and buying his ticket
   a do you make it clear to this passenger and to the driver that you are in a great hurry?
   b do you say or do nothing about it, thus missing your train almost for certain?
65 You have to buy yourself a new suit
   a do you go alone?
   b do you ask someone to accompany you and give his opinion?
66 You are feeling very bored and, for a break, you would like to go and see a film, but you know that none of the films running in the local cinemas will appeal to you
   a do you not go and try to amuse yourself in some other way?
   b do you go all the same because anything is better than this boredom?
67 You are in a shop awaiting your turn to be served the shop-assistant overlooks you and starts helping a customer who came in after you What do you do
   a tell him it is you who is next?
   b wait till he has finished helping the other customer?
68 You have invited someone of importance to you (let us say, a business acquaintance) to have lunch with you in a restaurant The waiter presents the bill, which appears to be considerably higher than you had expected
   a do you check the bill – in the presence of your guest – before paying?
   b do you pay without comment and check the bill afterwards when your guest is gone?
69 You decide to go in for some branch of sport, you can choose between volley-ball and hockey Which do you choose
   a volley-ball?
   b hockey?
70 You have long wanted to buy a radio set and a pick-up You have enough money

now to buy either an inexpensive radio set with a pick-up or a really fine radio without a pick-up:

a. do you buy the inexpensive radio set – with pick-up?

b. do you buy a first-class radio now and postpone the purchase of a pick-up?

71. If you had to make a choice between the following radio programmes, which would you choose:

a. a thrilling radio play?

b. a good quiz-programme?

72. Someone notorious for never paying back borrowed money asks you to lend him a pound:

a. do you give it to him after making him promise to repay within a given time?

b. do you not give it?

73. You are going to spend the weekend with your parents (or with friends). If you run very hard you may catch the train:

a. do you try to make it?

b. do you take the next train, which leaves within an hour?

74. The most comfortable chair in your room is broken; it cannot be used. A provisional repair would take you about an hour:

a. do you mend it?

b. would you rather wait a couple of days until the carpenter comes, and use a less comfortable chair in the meantime?

75. You are reading a thick book in which you are interested but which is not very exciting; you also have a thin little book, which is less serious but fascinating. You are half-way through the thick book:

a. do you interrupt your reading and read the little thriller first?

b. do you finish the thick book first?

76. You discover that the man who always looks after your bicycle (or car) has been swindling you for some time:

a. do you say nothing but go to someone else?

b. do you first give him a piece of your mind and then go to someone else?

77. You are reading a book; you come across a word you do not know nor can you derive its meaning from the context:

a. do you look it up?

b. do you read on?

78. You move into a new apartment the wallpaper of which you do not like at all. The landlady has no intention of doing anything about it:

a. do you have it repapered (or do you repaper it) yourself?

b. do you do nothing about it?

79. You go to the butcher's and ask for a 12 ounce piece of meat. He chops off nearly 16 ounces:

a. do you pay for the extra weight?

b. do you have him cut off 4 ounces?

80. There is to be a fine concert on the radio and at the same time there is an important football match in town. What would you rather do:

a. go to the football match?

b. listen to the concert?

81. The rear lamp of your bicycle does not work and you know it. You see a policeman making for you but you have plenty of time to escape:

a. do you wait until he has reached you?

b. do you make off?

82. You have been invited by an elderly couple to spend the evening with them. They have a radiogram, and in order to contribute to the success of the evening you have

brought along a newly bought gramophone record (price £1). You only mean to play it, but the old people are agreeably surprised and appear to be under the false impression that the record is a present to them:
a. do you clear up the misunderstanding?
b. do you let them keep the record?

83. You have to go to London and a friend offers you a lift; he may pick you up between 2 and 7 p.m. – he cannot say exactly when:
a. do you wait for your friend from two to seven?
b. would you rather take the train in this case?
84. You are going to make a motor tour (cycling tour, walking tour) with friends:
a. do you map out your route beforehand?
b. do you leave it to chance?
85. You are walking down the street when you see a former friend with whom you have fallen out, approaching on your side of the road:
a. do you cross the street to avoid him?
b. do you keep to your sidewalk and cut him dead?
86. You have been invited to tea. Without asking you first, the hostess has poured you out a cup of tea and put milk and sugar in it. You always have your tea without. She then asks: "Will this do, Mr. So-and-so?"
a. do you tell her you never take sugar or milk?
b. do you say: "Oh yes, thank you", and drink it like that?
87. You are passing the scene of an accident. Medical assistance has arrived; people are rushing up to look:
a. do you stop and ask what has happened?
b. do you hurry on, a strange sensation in your stomach?
88. On entering a shop you see that there are a great many customers before you:
a. do you stay and wait for your turn?
b. do you go to another shop where there are not so many customers?
89. Would you prefer to write with:
a. a fountain pen?
b. a ball-point?
90. What attitude do you prefer when studying:
a. lying on a couch?
b. sitting on an upright chair?
91. Where would you rather eat a herring:
a. at a stall?
b. at home?
92. Which would you rather drink:
a. whisky?
b. beer?
93. At the firm where you are employed there is a person whom you meet daily somewhere in the building. You do not know him:
a. do you start greeting him after some time?
b. do you wait for an opportunity to introduce yourself to him?
94. You have just bought a new jacket:
a. do you put it on as soon as you have come home with it?
b. do you put it away in the wardrobe for some time?
95. You come out of the station with a heavy suitcase when you discover the last tram has left. Your financial circumstances are rather straitened:
a. do you take a taxi?
b. do you walk all the way (circa 20 minutes)?
96. After a social evening there are the girls to be seen home. All of them live at about

the same distance. You know there is one girl who is nobody's choice:
a. do you wait till someone else volunteers to see her home?
b. do you go up to her at once?

97. You are very much interested in a particular work of French literature. There exists a very good translation of the book:
a. do you read the original?
b. do you read the translation?

98. You have to take a new grocer. You have the choice between two grocers, both of whom give a 10 per cent discount on their prices. The one does so in cash, the other by means of saving-stamps. Which do you prefer:
a. to pay 10 per cent less on the price?
b. to pay the full amount and receive a greater sum periodically?

99. You have asked a good friend to an informal dinner:
a. do you prefer to have such a dinner at home?
b. would you rather take your friend out to a restaurant?

100. You are going on a holiday-trip with friends. Which do you prefer:
a. to stay at a little hotel and have all your meals there, too?
b. to stay in tents and prepare your meals yourself?

For each of these 100 behaviour situations the probability of the alternatives (*a* and *b*) was established in advance. In this part of the pilot investigation, 50 subjects co-operated, all of them male junior students in psychology and first-year undergraduates at Nijmegen University in 1958/59. (The person to be judged was chosen from among them, too.)

Each of the 100 situations was written out twice on single cards because of the desirability to present the alternatives also in reverse order (*a* – *b* and *b* – *a*), making 200 cards in all. Before each session the cards were shuffled as for a game of cards. We had the 50 subjects state (predict) their own reactions to the 100 situations: *a* or *b*. The 100 behaviour alternatives marked a for one half of the subject were marked *b* for the other half.

With the help of the data thus obtained we selected 46 out of the 100 behaviour situations, viz. those situations for which the distribution of the predictions about *a* and *b* (for these subjects) was between 35% and 65%. For this experiment a fifty-fifty distribution, as might be expected from mere chance, was not necessary, seeing that we only wanted an answer to the question whether or not the experimental group would predict significantly better than the control group. A probability distribution of 35% – 65% (*a* and *b*) provides a margin (65% – 100%) that allows of the determination of such significance. With a probability distribution of 0 – 100% (*a* and *b*) this would not be possible; a correct prediction of *b* (with a probability of 100%) would have to be attributed to the obviousness of the answer and thus have no predicting value at all.

Twice, with an interval of about one month, those 46 behaviour alternatives were submitted for judgment to 20 subjects (selected arbitrarily from among the above mentioned 50 subjects to whom, previously, the 100 situations had been presented). The behaviour alternatives marked *a* for one half of the 20 subjects were marked *b* for the other half. This was done to level down any preference for always choosing the first – or the second – answer. We then compared, for each item, the first prediction of each subject with his second prediction in order to find out whether or not the latter showed a deviation from the former. In this way the consistency of those 46 behaviour alternatives was determined. These consistency coefficients are given in Table 1.

TABLE 1

Consistency coefficients of the 46 behaviour situations (calculated by means of the tetrachoric *r*)

No. of behaviour alternative		*r*	No. of behaviour alternative		*r*	No. of behaviour alternative		*r*
1	(1)	.707		(36)	.950	19	(65)	.893
2	(2)	.932	9	(39)	.714	20	(67)	.809
	(8)	.898	10	(40)	.763		(69)	.940
3	(9)	.613+	11	(41)	.900		(71)	.893
4	(10)	.898	12	(43)	.788	21	(75)	.714
5	(11)	.619+	13	(44)	.613+	22	(76)	.613+
6	(15)	.651+		(48)	.788		(78)	.405+
	(16)	.690+	14	(50)	.849	23	(82)	1.000
7	(18)	.659+	15	(53)	.714		(84)	.565+
	(22)	.459+		(54)	.884	24	(87)	1.000
	(24)	.799		(56)	.955	25	(91)	.972
	(25)	.829	16	(59)	.948		(92)	.975
	(31)	.916	17	(61)	.829		(97)	.945
	(34)	.893		(62)	.884		(98)	.975
8	(35)	.951	18	(64)	.950		(99)	.846
							(100)	1.000

No. of behaviour alternative = number of the behaviour alternative in the final series of 25 used in the final experiment.

No. of behaviour alternative ( ) = number of the behaviour alternative in the original series of 100 behaviour alternatives.

When calculating the tetrachoric *r* we found for the situations 2, 31, 36, 56, 64, 69, 91, 92, 98 a value 0 in one of the cells. To correct this we have replaced these zeros by $\frac{1}{2}$. All *r* values were positive.

+ = *r* (consistency coefficient of the behaviour alternative) is not significant with 20 subjects ($p > 0.05$). When we increased the number of subjects (n = 40) these consistency coefficients, too, proved to be significant.

In consequence, 46 behaviour alternatives are consistent and present a probability distribution of *a* and *b* ranging between 35% and 65%. They were, therefore, suitable for our final experiment. After selecting the person to be judged and determining the criterion for correctness of behaviour prediction, there remained no more than 25 behaviour alternatives that proved to meet all final requirements.

§ 5. *The person to be judged*

Crow pointed to the desirability of paying attention, when studying interpersonal perception, to the representativeness not only of the sample of the subjects but also of the sample of persons to be judged [52, 53]. If a pronouncement is to be made on the general empathic ability of the judges and if we wish to express that ability in an index figure, it will be necessary to include in the investigation a representative sample of the persons to be judged. In an experiment like ours, also, the use of such a sample would be advisable. Our findings would be more likely to be universally valid then. However, if we wish to be certain that the sample of the persons to be judged is a representative one, we need to know, when selecting this sample, what variables ought to be considered relevant. Little is known about this as yet. For such a selection the following variables of the person to be judged may be important: his (her) age, sex, social status, personality structure, consistency and transparency. Yet, if we should confine ourselves to these variables, it is not unlikely that we would run the risk of overlooking more relevant ones. Again, in measuring some of the variables mentioned, the investigator will find himself faced with quite perplexing problems. Moreover, even if, when selecting the sample, we would take into account only the variables mentioned above, the sample would have to be very large in order to be representative. As we shall see later on, in the actual experiment it took the subjects over two hours to judge a single person. The assessment of a large number of persons would have been too much for the judges.

For these reasons, like many other investigators *, we have not considered in our experiment the representativeness of the person to be judged. We held ourselves justified in doing so because the aim of the present investigation was not to determine the subjects' empathic ability itself, but to find out whether various groups of subjects would show any differences in judging ability. We have tried to create an experimental

* 18, 19, 57, 68, 75, 76, 95, 113, 132, 150, 172, 178, 185.

situation in which such a difference could be demonstrated for a single person to be judged. Nevertheless, a repetition of this investigation with more persons to be judged would be advisable.

What aspects were considered relevant when selecting the person to be judged?

Our chief requirement has been a high degree of consistency of his behaviour in the situations selected by us for prediction. Behaving-in-this-way-or-another in one of those situations was to depend, with him, as little as possible on chance. As stated above, 20 subjects predicted their own reactions to those situations twice, with about a month's interval. By means of mutual correlation of both predictions it was possible to establish to some extent the consistency of each subject. *

TABLE 2

Consistency coefficients of 20 subjects (calculated by means of the tetrachoric r)

No. of subject	r	No. of subject	r
1	.81	11	.98
2	.97	12	.98
3	.54	13	.67
4	.82	14	.75
5	.81	15	.58
6	.87	16	.89
7	.88	17	.94
8	.77	18	.80
9	.95	19	.86
10	.86	20	.92

All r-values are positive.

This table shows us that there were 6 subjects who scored an r exceeding .90 (tetrachoric r). We selected the person to be judged from among these 6 subjects, giving preference to somebody who would be in no way conspicuous by glasses, different skin colour, etc. Moreover, the person who, in view of these considerations, seemed best suited to our purposes, also turned out to be very consistent in his behaviour ($r = .973$).

The person to be judged – who was, like all our subjects, of the male sex — was the same for all subjects.

* A person is consistent in a behaviour situation when his behaviour in that situation is always the same.

§ 6. *Subjects*

In the present experiment the experimental group consisted of:

a. 15 junior students in psychology (*junior*: here and elsewhere: 1st year);

b. 16 senior psychology students (*senior*: here and subsequently: advanced, with at least 5 years of study).

The control group included:

1. 31 junior students of disciplines other than psychology:

a. 14 with a grammar school education (classical students);

b. 17 with a high school education (science students).

2. 26 senior students of other disciplines:

a. 13 with a humanities background (classical students);

b. 13 with a science background (science students), 9 taking mathematics and 4 chemistry.

The composition of the control group needs explanation. American investigators believe to have demonstrated that judges with a science background (e.g. physicists) are better at predicting the behaviour of others than judges who are psychologists [132]. Taft goes even further and maintains that clinical psychologists are worse predictors of the behaviour of others than experimental psychologists. Should these hypotheses, on re-testing, prove to be true, this might suggest the desirability for a change in the teaching of applied psychology. It seemed, therefore, important to find out whether the findings quoted above are specific for those schooled in the exact sciences or apply to the other non-psychologists as well. We therefore split up the control group into two subgroups:

1. students taking a pure humanities course (in this case: classical studies);
2. students taking a pure science course (in this case: mathematics and chemistry).

All subjects are male. Tracing down possible differences between the judging abilities of men and women does not come within the scope of the present investigation. The experiments quoted in the literature would seem to indicate that there does not exist such a difference. However, a decisive answer cannot yet be given: investigators arrive at contrary conclusions. Jenness [106] found that female students are significantly better judges of emotional expressions than are male students; Buzby [32], Fields [69], Kellogg and Eagleson [112], and Dymond [57] also thought they had found

indications of higher judging abilities in female subjects than in male ones; F. H. Allport [2], Coleman [46], Fernberger [66], Gates [79], Guilford [90], Notcutt and Silva [148], McClelland [135], Polansky [152], Steinmetz [147], Travers [190], and Valentine [191] concluded that men and women have equal judging abilities. Kanner [109], on the other hand, found that men are better judges. The contrary findings may be partly accounted for by the differences between the experimental situations in which the judging was done. These differences (both with regard to the person to be judged and to the questions to be answered about him) make it difficult to compare the above publications nor allow of final conclusions about any different judging abilities in men and women. A comparison between behaviour assessment by men and women is a problem by itself and outside the present study.

The *subjects belonging to the group of junior students*:

a. were enrolled at the university for the first time;
b. had not previously undertaken other studies;
c. were not older than 21 years;

the subjects belonging to the group of senior students:

a. had been studying their particular discipline for at least 5 years;
b. had not previously undertaken other studies;
c. had passed their Bachelor's examination at least one year before;
d. were not older than 29 years.

The subjects taking part in the present investigation were chosen at random from a group of students who met the requirements mentioned above.

One might object that it would have been more methodical to employ exclusively subjects of exactly the same age, for it is not impossible that the development of the abilities to judge others should keep pace with the advance in years. Walton [196], Dymond, Hughes, and Raabe [60], and Gates [79] found that such ability greatly increases between 3 and 18 years. Chowdhry and Newcomb [41], Estes [62], Kelly, Miles, and Terman [114], Polansky [152], Steinmetz [174], and Taft [184] failed to find any difference in judging ability with adults of varying ages (18–40). These investigations should justify the slight differences of age occurring in the experimental groups participating in our investigation.

TABLE 3

Ages of junior students

Age	Students of psychology	Students of the classics	Science students
21	6	–	–
20	–	1	–
19	5	6	2
18	3	7	9
17	1	–	6
Total	15	14	17

TABLE 4

Ages of senior students

Age	Students of psychology	Students of the classics	Science students
29	2	1	–
28	2	1	2
27	2	2	3
26	3	1	1
25	4	4	1
24	3	2	2
23	–	2	2
22	–	–	2
Total	16	13	13

TABLE 5

Numbers of academical years of senior students

Number of academical years	Students of psychology	Students of the classics	Science students
10	–	–	1
9	3	–	2
8	2	3	1
7	4	4	2
6	7	6	7
Total	16	13	13

In the course of their academical training a good many of the senior students had already been engaged in some kind of practical work. The students of psychology had passed through their probation terms; many

of the other subjects had taught, over various periods, in high schools and grammar schools.

TABLE 6

Practical experience as a master (senior students)

	Classical students	Science students
Has taught	10	5
Has not taught	3	8
Total	13	13

The practical activities of the senior students of psychology had mostly been in the fields of child psychology, industrial psychology, social psychology, and clinical psychology. All subjects in this group had had some practical experience. The periods of their activities varied in length; they are given in Table 7.

TABLE 7

Duration of practical activities of senior students in psychology

Duration in months	Number of subjects
14	2
12½	1
10½	7
9	2
7	1
6	1
4	2
Total	16

TABLE 8

Previous training of subjects

Previous training	Junior students of psychology	Senior students of psychology	Junior students of the classics	Senior students of the classics	Junior science students	Senior science students
Gym. α *	3	2	–	–	7	8
Gym. β	8	8	14	13	–	–
HBS-A	1	6	–	–	10	5
HBS-B	3	–	–	–	–	–
Total	15	16	14	13	17	13

* These are the customary abbreviations for the four types of Dutch schools preparing

for university entrance level. English equivalents are no more than approximate.

Gym. α: "Gymnasium α": grammar school with a strong Latin and Greek bias;

Gym. β: "Gymnasium β": grammar school with its main stress on the one hand on Latin and Greek, on the other on science;

HBS-A: "Hogere Burgerschool-A": high school with its main stress on economical subjects and modern languages;

HBS-B: "Hogere Burgerschool-B": high school with a science bias.

§ 7. *Criterion of correctness of the behaviour predictions*

In the section dealing with the methods used to determine the ability to judge people one of the chief objections raised by us against some of the published experiments was that the criterion according to which the correctness (or falseness) of a judgment was established often depended on subjective interpretations. In an investigation of this kind objectivity of the criterion is of paramount importance. Now the standards set by us for this criterion were higher than is usually the case.

Often in American experiments the criterion has been found in the prediction of his own behaviour by the person to be judged, whereas the question of this person's consistency as to his predictions was overlooked. But then, if this prediction of the self should be inconsistent, a correct prediction of it by someone else has no predicting value at all. In other experiments the criterion adopted was found in the predictions of the behaviour of the person to be judged by some of his acquaintances or by experienced psychologists. We combined the two methods and, in addition, required the person to be judged to be wholly consistent in his predictions of his own behaviour ($r = 1.00$). In this way the objectivity of the criterion was increased considerably.

When we selected the person to be judged, the individual who seemed most suited to our purpose showed a high consistency in his predictions of his own behaviour ($r = .973$). This degree of consistency was, moreover, heightened by us through the elimination of those behaviour alternatives (4 in all), in which, after a month's interval, he predicted the other alternative. After the elimination of these 4 behaviour situations the person to be judged could be considered as wholly consistent with regard to the 42 remaining situations ($r = 1.00$). Yet, a month after the second measuring had been done, his consistency with regard to the 42 remaining situations was once more determined. He then predicted the other alternative in one of these situations; this situation, too, was eliminated.

The question has been raised whether the predictions of his own behaviour by the person to be judged in the 41 situations might be considered as a criterion; in other words, whether the predictions given by himself are a guarantee that he actually will behave in the predicted way when placed in those situations. A number of investigators strongly question the reliability of self-judgments.* Seeing that it proved impossible, in order to test the correctness of the predictions by the person to be judged, to confront him in reality with each of the situations in question, we compared his predictions with those given by some persons who knew him very well. The person to be judged was asked to mention the two people who knew him best. It seemed rather obvious that his parents or his fiancée – he was a single man – would best qualify for the purpose; from them, however, a behaviour idealization was to be feared, making it preferable to select acquaintances with a less affective relation. The person to be judged designated two friends: A_1 (= acquaintance No. 1), a former colleague of his, aged 33, together with whom he had been working for over a year; and A_2 (= acquaintance No. 2), a first-year fellow-student, doing classical studies, aged 27. These acquaintances predicted his behaviour in the 41 remaining behaviour alternatives. Discord of these predictions with those given by the person to be judged was, again, a reason for us to eliminate the relevant alternative.

In this way we selected 25 behaviour situations showing complete concord between the consistent predictions by the person to be judged and those by two of his acquaintances. The final list of behaviour situations meeting our requirements consists of all items whose predictions showed this complete concord.

It was the concord of the behaviour predictions in which consisted the criterion of the present investigation.

* 108, 123, 138, 153.

TABLE 9

Predictions of S's behaviour by S, A_1, A_2

No. of behaviour situation	S		B_1		B_2
1	*a*		*a*		*a*
2	*a*		*a*		*a*
9	*a*		*a*		*a*
10	*b*		*b*		*b*
11	*a*		*a*		*a*
15	*a*		*a*		*a*
16	*a*	→	*b*	→	*b*
18	*a*		*a*		*a*
22	*a*	→	*b*		*a*
24	*b*	→	*a*		*b*
31	*b*	→	*a*		*b*
34	*a*	→	*b*		*a*
35	*b*		*b*		*b*
39	*b*		*b*		*b*
40	*a*		*a*		*a*
41	*b*		*b*		*b*
43	*a*		*a*		*a*
44	*a*		*a*		*a*
48	*a*	→	*b*		*a*
50	*a*		*a*		*a*
53	*a*		*a*		*a*
56	*b*	→	*a*		*b*
59	*b*		*b*		*b*
61	*a*		*a*		*a*
62	*b*	→	*a*	→	*a*
64	*a*		*a*		*a*
65	*a*		*a*		*a*
67	*a*		*a*		*a*
69	*a*	→	*b*		*a*
71	*a*	→	*b*	→	*b*
75	*b*		*b*		*b*
76	*b*		*b*		*b*
82	*a*		*a*		*a*
84	*b*		*b*	→	*a*
87	*a*		*a*		*a*
91	*a*		*a*		*a*
92	*a*		*a*	→	*b*
97	*b*	→	*a*	→	*a*
98	*a*		*a*	→	*b*
99	*b*	→	*a*	→	*a*
100	*a*		*a*	→	*b*

No of behaviour situation = number of the behaviour situation in the original series of 100 situations.

S = person to be judged

A_1 = acquaintance No. 1

A_2 = acquaintance No. 2

→ = discordant predictions

Final list of behaviour alternatives *

1. You go to a lecture — or a meeting — but on entering the room you see that the programme has started already, people are standing at the back while there are several vacant seats in the front rows.
   a do you step forward and take a front seat — if you can do so without being rude to the speaker although not without being clearly noticed by the audience?
   b. do you remain standing at the back?
2. You are attending a lecture; the audience consists of more than 30 people You do not agree with the speaker·
   a. do you stand up and tell him so?
   b. do you remain silent during the lecture and communicate your objections to your neighbour afterwards?
3. A friend of yours with whom you are not on intimate terms is the possessor of something you would very much like to borrow from him (e.g. a pair of skates):
   a do you ask him to lend them to you?
   b. do you not ask him?
4. There is a blind man at your door selling brushes — but you don't really need a brush just now and you think, too, that it is rather expensive
   a. do you nevertheless buy a brush from him?
   b. do you not buy one?
5. When receiving your pay-packet·
   a. do you always check the calculation of your wages?
   b. do you omit the checking and trust the calculation to be correct?
6. You are planning to take out a rather large insurance policy.
   a. do you consult several agents and study the folders?
   b do you go by the advice of someone you trust?
7. You are sitting in a crowded bus When you try to get out at a stop, people are blocking the exit so that the driver goes on again before you have been able to alight. What will you do
   a. ask the driver to stop again?
   b. ride on till the next stop, which is about 500 yards down the road?
8. What would you do.
   a. buy one good tie which lasts a year and costs £ 1?
   b buy two ties, each costing 10s and lasting only half a year?
9. Within the first five minutes of a written examination you have realized that you will not be able to answer a single question
   a. do you leave immediately?
   b. do you wait till the others have handed in their papers?
10. When you have promised your assistance at a children's party on Christmas Day which part would you preferably play
   a. Santa Claus?
   b. his black servant?
11. Your wife (or fiancee) wants to knot a Turkey carpet; the job will keep both of you busy for two evenings a week during the whole coming winter:
   a will you help her faithfully till the carpet is finished?
   b. will you try to dissuade her from her purpose because you have no intention of helping her but hate the idea of her doing the job all alone?
12. Your neighbour with whom you are on mere nodding terms has a dog that has the habit of barking all through the night.
   a. do you make a complaint to your neighbour?

* The Dutch version of these 25 behaviour alternatives is given in Appendix 8

b. do you put up with the discomfort for the sake of dear peace ?

13. You have decided to take a course on a subject the mastering of which will enable you to gain promotion in the firm for which you are working. After some time the course no longer answers your expectations: you had expected it to be far more interesting:
    a. do you continue with it ?
    b. do you give up the course and spend the hours thus set free in doing such social work, club work, corporate work etc. as will add to your social prestige and thus increase your chances for promotion that way ?
14. You are in the cinema and a lady with a big hat is sitting directly in front of you. As a result it is difficult for you to follow the film, even when keeping your head sideways all the time:
    a. do you ask the lady to take her hat off ?
    b. do you resign yourself to the inconvenience ?
15. You form part of a group charged with the organization of something:
    a. would you like to take command ?
    b. would you rather have someone else do so ?
16. You are in company and you have a craving for a cigarette. There is only one cigarette left in your cigarette case, so you cannot offer a smoke to the rest of the company:
    a. do you nevertheless light it ?
    b. do you refrain from smoking ?
17. Cycling home late at night, you arrive at a red traffic light; you notice no one else at this crossing:
    a. do you observe the rules and wait till the light turns to green ?
    b. do you ignore the red light and ride on ?
18. You are sitting in a bus carrying you to the station where you are to catch a train. You will probably be only just in time. At one of the last stops, however, somebody is very slow in getting in and buying his ticket:
    a. do you make it clear to this passenger and to the driver that you are in a great hurry ?
    b. do you say or do nothing about it, thus missing your train almost for certain ?
19. You have to buy yourself a new suit:
    a. do you go alone ?
    b. do you ask someone to accompany you and give his opinion ?
20. You are in a shop, awaiting your turn to be served; the shop-assistant overlooks you and starts helping a customer who came in after you. What do you do:
    a. tell him it is you who is next ?
    b. wait till he has finished helping the other customer ?
21. You are reading a thick book in which you are interested but which is not very exciting; you also have a thin little book, which is less serious but fascinating. You are half-way through the thick book:
    a. do you interrupt your reading and read the little thriller first ?
    b. do you finish the thick book first ?
22. You discover that the man who always looks after your bicycle (or car) has been swindling you for some time:
    a. do you say nothing but go to someone else ?
    b. do you first give him a piece of your mind and then go to someone else ?
23. You have been invited by an elderly couple to spend the evening with them. They have a radiogram, and in order to contribute to the success of the evening you have brought along a newly bought gramophone record (price £ 1). You only mean to

play it, but the old people are agreeably surprised and appear to be under the false impression that the record is a present to them:
a. do you clear up the misunderstanding?
b. do you let them keep the record?

24. You are passing the scene of an accident. Medical assistance has arrived; people are rushing up to look:
a. do you stop and ask what has happened?
b. do you hurry on, a strange sensation in your stomach?
25. Where would you rather eat a herring:
a. at a stall?
b. at home?

TABLE 10

Behaviour predictions by the person to be judged and by the two acquaintances in the above 25 situations

No. of behaviour situation		Behaviour prediction	No. of behaviour situation		Behaviour prediction
1	(1)	*a*	14	(50)	*a*
2	(2)	*a*	15	(53)	*a*
3	(9)	*a*	16	(59)	*b*
4	(10)	*b*	17	(61)	*a*
5	(11)	*a*	18	(64)	*a*
6	(15)	*a*	19	(65)	*a*
7	(18)	*a*	20	(67)	*a*
8	(35)	*b*	21	(75)	*b*
9	(39)	*b*	22	(76)	*b*
10	(40)	*a*	23	(82)	*a*
11	(41)	*b*	24	(87)	*a*
12	(43)	*a*	25	(91)	*a*
13	(44)	*a*			

No. of behaviour situation = number of the behaviour situation in the final list of 25 behaviour situations.
No. of behaviour situation ( ) = number of the behaviour situation in the original list of 100 behaviour situations.

It might be asked whether the choice of the two acquaintances was a good one; in other words, whether there might not have been other acquaintances who would have arrived at the same correct behaviour predictions. To check this, we had also

1. his fiancée,
2. an uncle who knew him fairly well,
3. his mother and
4. a colleague,

predict his behaviour in the 25 situations. However, for a correct view of their predictions the previously mentioned probability of idealization and of normative prediction should be taken into account.

TABLE 11

Behaviour predictions by 4 other relations

No. of behaviour situation	Fiancée	Uncle	Mother	Friend	Number of correct predictions for each behaviour situation
1	+	+	—	+	3
2	+	+	—	—	2
3	+	+	+	+	4
4	+	—	+	+	3
5	+	+	+	+	4
6	+	+	+	+	4
7	+	—	+	+	3
8	—	+	—	+	2
9	+	—	+	+	3
10	+	+	+	+	4
11	+	+	—	+	3
12	+	+	+	—	3
13	+	—	+	+	3
14	+	+	+	+	4
15	—	+	+	+	3
16	+	—	—	—	1
17	+	+	+	—	3
18	+	+	+	—	3
19	+	—	+	+	3
20	+	+	+	+	4
21	—	—	—	—	0
22	—	+	+	+	3
23	+	+	+	+	4
24	+	+	+	+	4
25	+	+	+	+	4
Number of correct predictions by each subject	21	18	19	19	77

+ = correct prediction

— = false prediction

These four relations gave, collectively, predictions that were significantly better than chance would lead us to expect (χ^2-method, $p < 0.01$).

§ 8. *The information supplied concerning the person to be judged*

The correct prediction of a person's behaviour does not only depend on the abilities of the judge and the qualities of the person to be judged, but also on the quantity and the quality of the information about the latter supplied to the former.

This information can be obtained in many ways. The literature records a number of methods which may be used separately as well as combined, to dose the information. These methods may be classed in two categories:

a. The judge is not confronted with the person to be judged.
He receives information concerning the person to be judged, but that person himself remains invisible to him.
This kind of information may be provided in interview reports, test results, and anamneses.

b. The judge is confronted with the person to be judged.
This confrontation may be indirect (through films, etc.) or direct.

For the present investigation we preferred the use of method *b*. Therefore, all subjects were confronted with the person to be judged. There are, however, various kinds of confrontation; we may, for instance, enable the judge to observe the person to be judged for a given time without the latter being aware of it. This procedure would, no doubt, greatly add to the authenticity of the behaviour of the person to be judged. In our case, however, the information thus supplied to each single subject would have shown both qualitative and quantitative variations. For if the person to be judged is to remain unaware of his being observed it will be difficult to induce him to behave a great many times in succession in exactly the same way in the same life-like situation. For these reasons we preferred to have a standardized observation situation.

It then remained for us to choose between indirect and direct (face to face) confrontation. In order to preserve the authenticity of the situation as much as possible we decided upon the face to face confrontation because an indirect encounter would unavoidably entail strong denaturalization (e.g. of the voice).

For the present investigation it is vitally important to find out what information will be sufficient for us to arrive at a correct prediction of the behaviour of the person to be judged in the particular situations listed above. We have tried to answer this question by means of a series of pilot experiments.

A. First, the behaviour pattern of the person to be judged in the 25 behaviour situations was analyzed by two experienced psychologists separately and independently of each other, without being confronted with him. In this way they formed for themselves a picture of him, which

they laid down in a description of his personality. The descriptions by these two psychologists showed points in common as well as differences. With regard to three characteristics they arrived at wholly identical conclusions. They both were of opinion that the person to be judged

1. was not shy;
2. was not good-natured;
3. followed his rational considerations rather than his emotional impulses.

Now let us suppose that these three characteristics are supplied as information; would they provide a sufficient basis for a correct prediction of the behaviour of the person to be judged in the 25 behaviour situations?

15 subjects (1st year students of psychology) were asked to predict, in the 25 behaviour situations, the behaviour of someone about whom it is known

1. that he is a man;
2. not shy;
3. not good-natured;
4. that he will follow his rational considerations rather than his emotional impulses.

The person to be judged remained invisible to the subjects.

On the strength of the information supplied the group as a whole gave significantly more correct predictions than chance would have us expect (χ^2-calculation, $p < 0.01$). The chance distribution in the χ^2-table was assumed to be on a fifty-fifty basis (+ or −).

Table 12 shows that it is possible to arrive at a correct behaviour prediction on the mere strength of information supplied. It will not have escaped our reader's notice that in our case the information referred *inter alia* to one quality playing a rôle in every interpersonal contact (shyness) and another one often utilized in psychological diagnosis (rationality – emotionality). Now, if it should be possible for a psychologist to draw similar information from the experimental situation in which the person to be judged is placed, such information would in itself enable him to give correct predictions.

B. However, the person to be judged was to be confronted with the judges in a particular situation, and the information to be drawn by the subjects from his behaviour in that situation was to be such as to enable them to predict his behaviour in the 25 behaviour alternatives. That was

TABLE 12

Behaviour predictions given on the strength of the above information

No. of behaviour situation	No. of subject															Number of correct predictions for each behaviour situation
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	15
2	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	15
3	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	15
4	−	+	+	+	−	+	+	+	+	+	+	+	+	+	+	13
5	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	15
6	+	+	+	+	+	+	+	+	−	−	+	+	+	+	+	13
7	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	15
8	−	−	+	−	+	+	+	−	+	+	−	−	−	+	−	7
9	−	−	−	−	−	−	+	−	+	+	−	−	−	−	+	4
10	+	+	+	+	+	−	−	−	+	+	+	+	−	−	+	10
11	−	+	−	+	+	+	+	+	−	+	+	+	+	+	+	12
12	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	15
13	+	+	+	−	+	+	−	+	+	+	+	+	+	+	+	13
14	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	15
15	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	15
16	−	−	−	−	+	−	−	+	−	+	−	−	−	−	+	4
17	−	−	+	+	−	+	−	−	+	+	−	+	−	+	+	8
18	+	+	+	+	+	+	+	+	+	+	+	+	+	+	−	14
19	+	+	+	+	+	+	−	+	+	−	−	+	+	+	+	12
20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	15
21	+	+	+	+	+	+	+	−	+	+	+	+	+	−	+	13
22	+	+	+	+	+	+	+	+	−	−	+	+	+	+	+	13
23	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	15
24	+	+	−	+	+	+	+	+	−	+	+	+	+	+	+	13
25	+	+	+	−	+	+	+	+	−	−	+	+	−	+	−	10
Number of correct predictions by each subject	19	21	21	20	22	22	20	20	19	21	20	22	19	21	22	309

+ = correct prediction

− = false prediction

why we asked 5 subjects (all of them students of psychology, one in his second, one in his third, and three in their fourth year of study) – each confronted with the person to be judged independently from the others – to predict the behaviour of that person a number of times in succession,

TABLE 13

Behaviour predictions given on the strength of the information items I, I+II, I+II+III, I+II+III+IV, I+II+III+IV+V

No. of behaviour situations	Subject No. 1	Subject No. 2	Subject No. 3	Subject No. 4	Subject No. 5
1	− − − + −	− − − − −	+ + + + +	+ − − + +	+ + + + +
2	+ + + + +	+ + − + +	+ − − + −	+ + + + +	− − − + +
3	+ − + + −	− − − − −	− + + + +	+ + + + +	− − − − −
4	+ + + − +	+ − − − −	− − − − −	+ + + + +	− + + + +
5	+ + + + +	+ + + + +	+ + + + +	− + − − −	− + + + +
6	+ + + + +	+ + + + +	+ + + + +	+ + + + +	+ + + + +
7	− + − − −	− − − − −	− − + − +	− − + + +	− − − + +
8	+ + + + +	− − − − −	+ + + + +	− + + + +	− − − − −
9	− − − − −	+ + + + +	+ + + + +	− − − − −	− − − − −
10	− − + + −	− − − − −	+ + + + +	− − − − −	− − − − −
11	− − + − −	+ + + + +	− − − − −	+ + + + +	+ − − − −
12	− + − + −	− − − − −	+ + − + +	− − + + −	− − − − −
13	+ + − − −	+ + + + +	+ + + + +	− − − − −	+ + − − −
14	− + + + +	+ + + + +	+ + + + +	− + + − −	− − − − −
15	− − − + +	− − − + +	− − − + +	− − − + +	− − − + +
16	− − − − −	− − − − −	+ + + + −	− − − − −	+ + + + +
17	+ − − − +	+ + + + +	− + + + +	+ + + + −	− − − − −
18	− + + + +	− − − + +	+ + + + +	+ + + + +	+ + + + +
19	− − − + +	+ − − + +	− − − − −	− − − + +	+ − − − −
20	− − − − −	+ − − + +	− − − − −	− + − − −	+ − − − +
21	+ + − − +	+ + + − +	− − − − −	+ + + + +	− − − − −
22	+ + + + −	− − − − +	+ + + − +	+ + + + +	+ + − + +
23	− − − − −	+ − − − −	+ − − + +	− − − − −	+ + − − +
24	− + − − +	− − − + −	− + − − +	+ + + + +	+ + + + +
25	− − − − +	− − − − −	+ − − − −	+ + − + +	− + + + +
Number of correct predictions given by each subject	10 13 11 13 13	13 9 8 13 14	15 15 14 16 17	12 15 14 17 15	11 11 8 12 14

\+ = correct prediction
− = false prediction

each time on the strength of additional information. These items of information were:

I. The person to be judged enters, without saying or doing anything for a few minutes

II. He reads a text chosen at random aloud for about 5 minutes.

III. He is required to bend a piece of wire into a given pattern.
IV. He tells briefly the story of his life.
V. The subjects are engaged in a spontaneous conversation with the person to be judged. During this conversation, lasting 10 minutes, no questions are allowed regarding one of the 25 behaviour situations.

TABLE 14

Correct predictions given by each subject on the strength of the information items I, I+II, I+II+III, I+II+III+IV, I+II+III+IV+V

Information	Subject No. 1	Subject No. 2	Subject No. 3	Subject No. 4	Subject No. 5
I	10	13	15	12	11
II	13	9	15	15	11
III	11	8	14	14	8
IV	13	13	16	17	12
V	13	14	17	15	14

These data tell us that the wire-bending exercise did not provide adequate information. After the wire-bending exercise the number of correct predictions dropped considerably (−2, −1, −1, −1, −3), probably on account of the clumsiness at this job of the person to be judged, which may have offset the impression of self-confidence previously created by him.

The number of correct predictions turned out to have risen after the person to be judged had told his life story (+2, +5, +2, +3, +4). It raised the predictability of his behaviour to a considerable extent.

Remarkable was that after the spontaneous conversation with the person to be judged there was hardly any increase in correct predictions (0, +1, +1, −2, +2). Some investigators have found that personal contact, e.g. in an interview, has no positive influence on predictions [113, 180]. Our own material, too, would seem to point in that direction, but its evidence is by no means sufficient. Also, a verification of this hypothesis is outside our problem.

The items of information did not meet the requirements set by us for our experiments. Information I (the person to be judged enters, without saying or doing anything) turned out to be too slight to make correct predictions possible. Information II (reading aloud a random text) was probably tinged with the tenor of the text. Information III (the wire-

bending exercise) distorted the image of the person to be judged. Information IV (life story) and V (conversation) seemed, on second thoughts, less suited for the purpose, the chances being that students of psychology would have greater skill in handling this kind of information than students of other disciplines would.

C. For these reasons we had 4 other subjects predict the behaviour of the person to be judged, on the strength of additional information. A few days before the experiment was to take place, the person to be judged was asked to express his opinion * about the following problems:

1st task:

You are the head of a department in a certain firm and the work is amassing to such an extent that you can no longer cope with it single-handed. You decide to attract an assistant, who will have to work in close co-operation with you and who is to take over an important share of your task.

There are two candidates: Smith and Brown. Both men have been working in your department for a considerable period. Smith is a very industrious man and a capable worker at that. In a team he is loyal; he is tractable and easily conforms to orders. He has few if any interests not directly connected with his job. The work he turns out is always faultless and needs no supervision. Brown is a different type of man; although in his work he is a first-rate expert, as a subordinate he is not always easy to handle. He is full of fun; his sense of humour is, in your eyes, perhaps even a little over-developed. Besides, he has a number of duties in several clubs in town, which activities do not seldom keep him occupied during working hours.

Which candidate would you choose for assistant and why?

2nd task:

State your views (in a speech of about 10 minutes) on *the place of labour in life.*

3rd task:

State your views (in a speech of about 10 minutes) on the concept of *imagination.*

---

* For the way in which he did this, see Appendix 1

The person to be judged spoke well over 20 minutes in all about these three themes. Then the 4 subjects predicted his behaviour in the 25 situations.

TABLE 15

Behaviour predictions given on the strength of the above information

No. of behaviour situation	Subject No 1	Subject No. 2	Subject No. 3	Subject No. 4
1	—	+	—	—
2	—	—	+	+
3	—	—	+	+
4	+	+	—	+
5	—	+	+	+
6	—	+	+	—
7	+	+	+	—
8	+	+	+	—
9	+	—	—	+
10	+	+	+	+
11	+	+	—	—
12	+	+	—	+
13	—	+	—	+
14	—	+	+	+
15	+	+	+	+
16	+	—	—	+
17	—	+	—	+
18	—	+	—	+
19	+	+	—	+
20	+	—	—	—
21	—	—	—	+
22	—	—	—	+
23	—	+	+	—
24	+	—	+	+
25	—	+	+	+
Number of correct predictions by each subject	12	17	12	18

+ = correct prediction

— = false prediction

Subject No. 1 = 2nd year student of psychology,

Subject No. 2 = 3rd year student of psychology,

Subject No. 3 = 4th year student of psychology,

Subject No. 4 = 3rd year student, training to be a notary.

When the experiment was over we asked the four subjects which of the following adjectives applied to the person to be judged:

1. shy – not shy
2. rational – emotional

Their answers are recorded in Table 16.

TABLE 16

Traits ascribed by the 4 subjects

	Subject No. 1	Subject No. 2	Subject No. 3	Subject No. 4
shy – not shy	not shy	not shy	not shy	not shy
rational – emotional	emotional	rational	emotional	rational

The image formed by the subjects No. 2 and No. 4 of the person to be judged with regard to these categories proved to concord with the image formed by the two psychologists. The subjects No. 2 and No. 4 gave the most correct predictions. The subjects No. 1 and No. 3 considered the person to be judged emotional rather than rational. The third task may have had a confusing effect. It seemed, therefore, advisable to drop it. The first and second tasks were maintained as information sources.

§ 9. *Pilot investigation into the influence of both minor differences in the behaviour of the person to be judged and the influence of the surroundings in which the experiment is done on the predictability of his behaviour*

In the final experiment the subjects belonging to the various groups were to be confronted, each separately, with the person to be judged. The person to be judged was to behave each time in the same manner; he was to receive each time the same instruction and perform his task each time in the same way.

All the same, minor differences in the behaviour of the person to be judged, without the latter being aware of them, may influence the predictability of his behaviour. Likewise, it may be influenced by the surroundings in which the experiment is done.

Now part of the subjects in the final experiment studied at Nijmegen University (the students of psychology and those of the classics), part of the subjects studied at Leyden (the science students), as a result of which fact the final experiment was carried out at two different places *.

Consequently, we decided upon a pilot investigation in order to verify this hypothesis:

> Minor differences between the behaviour of the person to be judged in one situation and another, without him being aware of it, as well as the surroundings in which the experiment is carried out, will influence the predictions about the behaviour of that person.

Subjects were the pupils of two parallel forms (5th forms A and B) of a training college for boys.

TABLE 17

Ages of the subjects

Age	Group A	Group B
24	–	1
23	2	–
22	5	2
21	3	4
20	3	5
19	1	–
18	–	–
Total	14	12

The two groups were confronted separately with the person to be judged; group A in a classroom of the training college at Nijmegen, group B in the Psychological Laboratory of Nijmegen University. The person to be judged received the instructions 1 and 2 (see Appendix 1) and performed both tasks twice in the same manner. Next, the subjects predicted his behaviour in the 25 behaviour situations.

* The final experiment, the results of which are recorded in Chapter III, was done in the Psychological Laboratory of Nijmegen University and in a lecture room of Leyden University.

TABLE 18

Behaviour predictions on the strength of this information, given by group A

No. of behaviour situation	No. of subject														Number of correct predictions for each behaviour situation
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
1	+	−	+	+	−	−	−	−	+	+	−	−	+	−	6
2	+	+	+	+	−	+	+	+	−	−	+	+	+	+	11
3	+	−	−	+	−	+	−	−	+	−	−	+	−	−	5
4	+	+	−	+	+	+	+	+	−	+	−	+	+	+	11
5	+	+	+	+	+	+	+	+	+	+	+	+	+	+	14
6	+	−	+	+	+	−	−	+	−	+	+	+	+	−	9
7	−	+	+	+	+	+	−	+	+	+	−	+	+	−	10
8	+	+	+	+	−	−	+	−	+	−	−	−	−	+	7
9	+	−	+	+	+	+	+	+	−	−	+	+	−	+	10
10	−	−	+	+	−	+	+	+	+	+	+	+	+	−	10
11	+	−	+	+	−	−	−	−	+	+	−	−	+	+	7
12	−	−	+	−	−	+	−	+	−	+	−	−	−	+	5
13	−	−	+	+	+	+	+	+	+	+	+	−	+	+	11
14	−	−	−	+	+	+	−	+	+	+	−	−	−	+	7
15	+	+	+	−	+	+	−	+	−	+	+	+	+	+	11
16	+	+	+	+	+	+	+	+	−	+	+	+	+	+	13
17	+	−	+	+	+	+	+	+	+	+	+	+	+	+	13
18	−	+	−	+	+	+	−	−	+	+	−	+	+	+	9
19	−	−	+	−	+	+	−	−	+	+	+	+	+	+	9
20	+	−	+	−	+	+	−	−	+	+	+	−	−	−	7
21	+	−	+	−	−	−	+	+	+	+	+	+	+	+	10
22	+	+	+	+	+	+	−	+	−	−	+	−	+	+	10
23	−	+	−	+	+	+	−	+	+	+	−	+	−	+	9
24	−	+	+	+	+	+	+	−	+	+	−	+	−	+	10
25	−	+	−	−	+	−	+	−	−	−	−	−	−	−	3
Number of correct predictions by each subject	15	12	19	19	17	19	12	16	16	19	13	16	16	18	227

\+ = correct prediction
− = false prediction

TABLE 19

Behaviour predictions on the strength of this information, given by group B

No. of behaviour situation	No. of subject												Number of correct predictions for each behaviour situation
	1	2	3	4	5	6	7	8	9	10	11	12	
1	+	+	−	−	+	+	−	−	−	−	+	+	6
2	+	−	+	+	+	+	−	+	+	+	−	+	9
3	−	−	−	+	+	−	+	−	+	−	−	+	5
4	+	+	−	+	+	−	−	+	+	+	+	−	8
5	+	−	+	+	+	+	+	+	+	+	+	+	11
6	−	−	+	+	+	+	−	+	+	+	+	+	9
7	+	−	−	+	−	−	+	+	+	+	−	−	6
8	+	−	−	+	+	+	+	−	−	−	−	−	5
9	+	+	+	+	+	+	+	+	−	+	−	−	9
10	−	+	+	−	−	−	+	+	+	+	+	+	8
11	+	−	−	+	−	−	−	+	−	+	+	−	5
12	−	−	−	+	−	−	+	+	+	+	+	+	7
13	+	−	−	+	+	+	+	+	+	−	−	+	8
14	−	−	+	−	−	−	+	+	−	+	−	+	5
15	−	+	−	+	+	+	−	+	+	+	+	−	8
16	+	+	+	+	−	−	+	+	−	−	−	+	7
17	−	+	+	+	+	+	+	+	+	+	+	+	11
18	−	−	+	+	+	−	−	+	−	+	+	+	7
19	+	+	−	−	+	+	−	+	+	+	+	−	8
20	−	−	+	+	−	+	−	+	+	+	+	+	8
21	−	+	+	+	−	+	−	+	+	+	+	−	8
22	+	+	−	+	+	+	−	+	+	+	+	−	9
23	−	−	−	+	−	−	−	+	+	+	+	+	6
24	+	−	+	+	+	−	+	+	+	+	−	+	9
25	+	−	−	−	+	+	−	−	+	−	−	−	4
Number of correct predictions by each subject	14	10	12	20	16	14	12	21	18	19	15	15	186

+ = correct prediction
− = false prediction

Table 20 indicates the frequencies of the numbers of behaviour situations predicted correctly in group A and group B.

TABLE 20

Numbers of correct predictions in group A and group B

Number of correctly predicted alternatives	Frequency in group A	Frequency in group B
21	–	1
20	–	1
19	4	1
18	1	1
17	1	–
16	4	1
15	1	2
14	–	2
13	1	–
12	2	2
11	–	–
10	–	1
Total	14	12

The hypothesis was verified with the help of the χ^2-method ($\chi^2 = 0.57$, $p = 0.44$).

On the strength of these findings the hypothesis was rejected. Taking into account the p-value found by us, we concluded from this pilot experiment that:

> Neither minor unconscious differences between the behaviour of the person to be judged in one situation and that in another situation nor the surroundings in which the experiment is done, will influence the predictions about his behaviour.

For the rest of the experiment we have presumed that the above conclusion would also remain valid in the case of minor differences occurring with a second and a third etc., repetition in varying surroundings.

The pilot experiment also provided us with another important datum, viz. that, as regards the information sources of our subjects, we could restrict ourselves to tasks 1 and 2, leaving out task 3, because they were in themselves sufficient for the prediction of behaviour. Since on the strength of this information the two groups did indeed arrive at significantly more correct predictions than the normal probability distribution would lead us to expect (χ^2, $p < 0.01$), this would seem to prove the predictability of the 25 behaviour alternatives on the strength of such information.

CHAPTER III

LINE OF ARGUMENT AND FINDINGS

§ 1. *Correctness of behaviour prediction*

In Chapter I Problem 1 was formulated as follows:

> Does the senior (i.e. advanced) student of psychology possess a better practical knowledge of man than the senior student of another discipline?
>
> If there is a difference it could be put down to:
>
> *a.* the choice of psychology as a branch of study;
>
> *b.* the influence of the study of psychology.

Our method of measuring the practical knowledge of man was to establish the number of correct predictions about the behaviour of some person to be judged, scored by our subjects from a range of 25 selected behaviour alternatives.

In order to be able to answer Problem 1 we had to test the validity of the following hypotheses concerning the prediction of the behaviour of a person to be judged:

a. The junior student of psychology tends to give more correct predictions of that behaviour than the junior student of another discipline.

b. The senior student of psychology tends to give more correct predictions of that behaviour than the senior student of another discipline.

c. The senior student of psychology tends to give more correct predictions of that behaviour than the junior student of psychology.

d. The senior student of disciplines other than psychology tends to give more correct predictions of that behaviour than the junior student of another discipline.

Table 21 presents a survey of the prediction scores of all groups. The predictions of each subject in each single behaviour situation are given in Appendix 2.

TABLE 21

Numbers of correct predictions by each group

Number of correctly predicted alternatives	Junior psychology students	Senior psychology students	Junior classical students	Senior classical students	Junior science students	Senior science students
25						
24						
23						
22			2			1
21	1	1				
20	1	1				
19					1	
18		2		1	2	2
17	2	3	1	4	1	1
16	3				2	2
15	2	5		3	5	2
14	3	1	1		2	2
13			3	2	1	1
12		2	2	2	1	
11	1		2			1
10		1	1			
9			1	1	2	1
8	1					
7	1		1			
6						
5						
4						
3						
2						
1						
0						
Number of subjects	15	16	14	13	17	13

First of all, Table 21 shows that all groups, with the exception of the junior students of the classics, gave significantly more correct predictions than might be expected from mere chance ($p < 0.05$). This was calculated by means of the χ^2-method and expressed by the following figures:

junior psychology students : $\chi^2 = 6.033$, $p < 0.02$
senior psychology students : $\chi^2 = 13.228$, $p < 0.01$
junior classical students : $\chi^2 = 0.692$, $p > 0.05$
senior classical students : $\chi^2 = 4.687$, $p < 0.05$
junior science students : $\chi^2 = 6.667$, $p < 0.01$
senior science students : $\chi^2 = 7.849$, $p < 0.01$

For these calculations a fifty-fifty probability distribution of correct and false predictions was assumed. The selection of our material seemed ample justification for this.

To test the validity of the hypotheses set up by us the Mann-Whitney *U*-test was used.

Hypothesis *a* had to be rejected on the strength of the evidence ($p > 0.05$). This *p*-value referred both to the comparison of the predictions by the junior students of psychology with those by the junior students of the classics and to the comparison of the predictions by the junior students of psychology with those by the junior science students. *In the present experiment the junior students of psychology did not manifest more practical knowledge of man than the junior students of the classics and of the sciences.*

Hypothesis *b* had to be ruled out, too ($p > 0.05$), because we did not find any difference in practical knowledge of man between the senior students of psychology and the senior students of the classics nor any between the senior students of psychology and the senior science students. *In the present experiment the senior students of psychology did not manifest more practical knowledge of man than the senior students of the classics and of the sciences.*

Hypotheses *c* and *d* had to be rejected likewise ($p > 0.05$). *In the present experiment neither an increase nor a decrease of the practical knowledge of man under the influence of the study of psychology on the one hand or of the study of the classics or the sciences on the other, could be demonstrated.*

These results only partly concord with those of the American experiments. With Hanks [94], Kelly and Fiske [113] we concluded that the study of psychology does not necessarily increase the practical knowledge of man; our findings correspond to Luft's [132, 133] that senior students of psychology did not possess a better practical knowledge of man than did the students of other disciplines. On the other hand, our investigation did not lead to the conclusions of Buzby [32], Crow [51], Estes [62], and Wedell and Smith [199], who maintained that the practical knowledge of man is negatively influenced by the study of psychology. Nor did we find support for the hypothesis that the practical knowledge of man is influenced positively by a training in the exact sciences [132, 183].

§ 2. *Categories of judgment*

Problem 2 was:

> Does the senior student of psychology, when judging his fellow-men, use categories different from those used by the senior student of another discipline; does he, perhaps, use more or less categories than the latter? Does the value attached by him to certain categories of judgment differ from that attached to the same categories by the senior student of another discipline? Should any difference in the use of judging categories be put down to the study of psychology or must we ascribe it to the choice of psychology as a branch of study?

The data to be used in answering these questions were collected by means of the Q-method (cf. Chapter II, § 3). Each subject described the person to be judged in a Q-sort consisting of 80 adjectives. The Q-sorts thus obtained were intercorrelated for each group [45]. The intercorrelations of all subjects in each group were recorded in the correlation matrices of these groups. On those correlation matrices a centroid factor-analysis was carried out [187]. The communalities were estimated according to the method of the highest correlation. The factor extraction was then repeated with corrected communalities. The correlation matrices and the factor matrices are given in Appendix 3. The extraction was done with the help of a computer, which stopped after the extraction of 10 factors unless the Saunders key had been reached before * [36].

There was no point of reference for the rotation of the factors. When rotating the factors we maintained the axes in the orthogonal position; the structure of the unrotated matrices was preserved as much as possible. This implies that the rotation was brought about in such a way as to assign maximal variance to the first factor. The remaining factors are for the greater part to be considered as residual ones (see Appendix 3). This way of rotating renders the interpretation of the residuals very difficult. We shall, therefore, restrict ourselves to an interpretation of the first factor, which goes a long way to explain the variance.

What do the various factors, thus rotated, contribute to the variance in the assessment of the person to be judged? Table 22 gives the averages of the contributions of factor I and those of the more important residuals to the variances in the various groups of subjects. In Table 22 the factors

* The calculations of the factor-analytic part of our investigation were carried out by the Amsterdam branch of the International Business Machines Corporation (IBM), Dept. of Applied Science.

TABLE 22

Significant loadings of rotated factors

No. of subject	Junior psychology students					Junior classical students					Junior science students				
	I	II	III	IV	V	I	II	III	IV	V	I	II	III	IV	V
1	46			29	23	84					77				
2	73		−33			63				55	77			−34	
3	56		−52			68	45				62		58		
4	74		49			66	46	−29	23		35		40		
5	83					69					64	−31			−29
6	67	45		30			79		23		77	41			
7	56		26			70				44	32	−50			
8	47	69				63		−31			81				
9	49	67				82					66				32
10	55				−36	87					71	39			
11	76			27		45	65				53	32			
12	46	−46	29			81					50			39	
13	67	55				86					87				
14	69					36	61	33			78	−38			
15	65	−38									79				
16											85		27		
17											55		39		
Average contribution to variance in %	39.7	13.1	6.3	3.3	2.5	46.4	14.0	3.3	3.1	4.5	46.8	6.2	5.7	3.1	2.5
		(total 64.9)					(total 71.3)					(total 64.3)			

No. of subject	Senior psychology students				Senior classical students				Senior science students		
	I	II	III	IV	I	II	III	IV	I	II	III
1	78	–38			57		48		76	–39	
2	41	68			71	46			85		
3	57			50	72		–30		74		46
4	72		26		73			46	81		
5	80	41			70				63		61
6	73				76				58	57	
7	72				84				77	–33	
8	86	–36				–62			85		
9	76	–32			78		–27		65		
10	73			48	86				65		
11	27	75	25		73	45			66	34	47
12	60			52	83				74		
13	36		61		51			41	47	49	50
14	79		–28								
15	87										
16	81										
Average contribution to variance in %	48.5	10.7 (total 70.0)	4.9	5.9	50.2	7.4 (total 65.6)	4.4	3.6	50.7	8.0 (total 68.1)	9.4

have been indicated by I, II, III, IV, V; this is not to imply that a factor indicated in various groups by the same figure, will also be contentually the same in those groups. In the table the factor loadings are presented to two decimal places only. Factor loadings smaller than .224 have been omitted, i.e. those factor loadings whose contributions to the variance for that particular subject are smaller than 5%.

Table 22 shows that the number of factors with significant loadings is the same for all groups of junior students, whereas this number is smaller for the senior students than for the junior students. This applies to all disciplines; most stringently, however, to the science students. Both with the senior psychology students and with the senior classical students the original number of five factors has dropped to four; with the senior science students we found only three factors with significant loadings in one or more subjects. These findings would seem to justify the conclusion that the number of judging categories for senior students of all disciplines, students of psychology included, is smaller than for junior students.

TABLE 23

Correlation matrix of factor I

	Junior psychology students	Junior classical students	Junior science students	Senior psychology students	Senior classical students	Senior science students
Junior psychology students	—	59	79	39	86	48
Junior classical students	59	—	62	15	65	51
Junior science students	79	62	—	35	81	61
Senior psychology students	39	15	35	—	21	47
Senior classical students	86	65	81	21	—	44
Senior science students	48	51	61	47	44	—

To what extent does factor I contain indications for either concord or discord between the ways of judging by the various groups of subjects? In order to determine the content of the factors, the regression equations were carried out according to the Guttman and Cohen method [91]. After the factor loadings of the 80 descriptive adjectives had thus been determined, these loadings were reduced to 11 categories, according to the frequency distribution as stated in Chapter II, § 3. Each factor was designated by the 12 adjectives with the highest and the 12 adjectives with the lowest loadings it contained. Now it is possible to obtain a correlation of the factor I of various groups [176]. For each factor the descriptive adjectives were ranked in our frequency distribution of 11 categories. These arrangements may again be regarded as Q-sorts, allowing of intercorrelation [45]. In this way we calculated the correlation of the factor I for the various groups of subjects. These correlations have been recorded to two decimal places in Table 23.

The data of Table 23 are highly informative for our problem. The most telling are the low correlation coefficients of the senior psychology students, the only group where not a single high correlation was found. Consequently, the factor I in the groups of senior psychology students cannot be ranked with the factor I in the other groups of subjects. The ways of assessment expressed by this factor are different. The training in psychology has put its stamp on the way the senior psychology students assess a person to be judged.

Another important piece of information is furnished by the fairly high intercorrelations of the junior students. Their ways of assessment show a marked degree of conformity. In the first section of the present chapter we concluded that he junior psychology students did not possess more practical knowledge of man than the other junior students. It now turns out that their ways of assesment do not differ much either.

A striking phenomenon is the remarkable degree of correlation as regards factor I of the senior classical students on the one hand and all groups of junior students on the other. These correlations are considerably higher than the corresponding ones for the senior science students and the senior psychology students. The ways of assessment of the senior classical students showed little deviation from those of the junior students in general. It would seem, therefore, that the former's way of assessment is but little influenced by their study, as opposed to that of those who have received a training in psychology or the sciences over a considerable period of time.

What is the content of this first and main factor? We have already stated that the content of a factor is expressed by its 12 highest-loaded and its 12 lowest-loaded adjectives. For factor I these adjectives are given in the following tables.

TABLE 24

Highest and lowest-loaded adjectives of factor I for the junior science students

10. industrious	0. lazy
10. reliable	0. thoughtless
9. hard-headed	1. ill-mannered
9. serious	1. effeminate
9. quiet	1. dishonest
9. modest	1 artistic
8. kind	2. careless
8. masculine	2. rude
8. practical	2. dumb
8. sincere	2. moody
8. good-natured	2. absent-minded
8. helpful	2. indifferent

TABLE 25

Highest and lowest-loaded adjectives of factor I for the junior classical students

10. independent	0. uncertain
10. practical	0. careless
9. critical	1. thoughtless
9. rational	1. dumb
9. intelligent	1. nervous
9. masculine	1. rude
8. hard-headed	2. fickle
8. quiet	2. submissive
8. conscientious	2. effeminate
8. industrious	2. tractable
8. energetic	2. lazy
8. tenacious	2. shy

TABLE 26

Highest and lowest-loaded adjectives of factor I for the junior science students

10. conscientious	0. thoughtless
10. quiet	0. dumb
9. industrious	1. lazy
9. serious	1. indifferent
9. reliable	1. fickle
9. rational	1. dishonest
8. kind	2. unsympathetic
8. practical	2. adventurous
8. independent	2. impulsive
8. intelligent	2. ill-mannered
8. modest	2. emotional
8. even-tempered	2. rude

TABLE 27

Highest and lowest-loaded adjectives of factor I for the senior psychology students

10 unoriginal	0. careless
10. tenacious	0. witty
9. independent	1. imaginative
9. pessimistic	1. versatile
9. short-sighted	1. adventurous
9. even-tempered	1. spontaneous
8. surly	2 thoughtless
8. reliable	2. artistic
8. uncommunicative	2. cordial
8. conscientious	2. high-strung
8. dull	2. fickle
8. serious	2. submissive

TABLE 28

Highest and lowest-loaded adjectives of factor I for the senior classical students

10. practical	0 lazy
10. conscientious	0. rude
9. serious	1. dumb
9. industrious	1. dishonest
9. kind	1. ill-mannered
9. reliable	1. unsympathetic
8. rational	2. careless
8. energetic	2. indifferent
8. helpful	2. effeminate
8. sincere	2. thick-skinned
8. frank	2. affected
8. modest	2. thoughtless

TABLE 29

Highest and lowest-loaded adjectives of factor I for the senior science students

10. unoriginal	0. imaginative
10. industrious	0. thoughtless
9. pessimistic	1. spontaneous
9. critical	1. adventurous
9. rational	1. short-sighted
9. quiet	1. rude
8 hard-headed	2. modest
8. energetic	2. submissive
8. conscientious	2. uncertain
8. serious	2. narrow-minded
8. uncommunicative	2. irresolute
8. intelligent	2 open

We shall try to describe the meanings of the adjectives in this factor for the various groups of subjects and to distinguish among them. In our opinion, this is the most delicate part in handling the Q-sort method, especially with a rotation as chosen by us. We must not rule out the possibility that the description of the factors should, to a considerable degree, be determined by a subjective interpretation of the investigator. This part of the investigation being a tentative exploration, the following interpretation can only be given with due reserve.

We have already stated that for the various groups of junior students the correlations of factor I were fairly high (.59, .79, .62). The most striking thing for these groups is that the highest-loaded adjectives stand without exception for admirable qualities whereas the lowest-loaded adjectives exclusively refer to reprehensible traits. As we have seen, factor I showed a highly positive loading for all subjects; this means that the subjects very much tended both to ascribe the good qualities to the person to be judged and, reversely, to deny him the bad ones, i.e. the juniors "idealized" the person to be judged.

What may have been the reason? A plausible explanation, no doubt, would be that their idealization is the result of situational factors. The juniors might have been either too timid or too much impressed by the person to be judged to arrive at an unfavourable judgment. Such an explanation, however, turns out to be unacceptable. The raw scores of the Q-sort show that the juniors did give unfavourable assessments in certain adjectives and this to no less a degree than the seniors. We believe to have found a different explanation of this phenomenon, distinguishing in the junior factor I between two components: contact assessments and function assessments.

Under contact assessments we have classed the following descriptive adjectives:

with the junior psychology students:
modest, kind, sincere, good-natured, helpful, ill-mannered, rude, indifferent;

with the junior classical students:
rude, fickle, tractable, shy;

with the junior science students:
kind, modest, fickle, unsympathetic, ill-mannered, rude.

Under function assessments we have classed the following adjectives:

with the junior psychology students:

industrious, hard-headed, practical, lazy, dumb;

with the junior classical students:

practical, critical, rational, intelligent, hard-headed, industrious, energetic, tenacious, dumb, lazy;

with the junior science students:

conscientious, industrious, rational, practical, independent, intelligent, dumb, lazy.

Descriptive adjectives referring with the junior students to contact assessment tell about the contact between the judges and the person to be judged. We might consider these adjectives to be an index of the sympathy (antipathy) felt by the subjects for the person to be judged. This sympathy is highly subjective and will pervade all other adjectives, bringing about an overall favourable assessment of the person to be judged. Function assessments, on the other hand, inform us about "what the person to be judged can do" and about "how he does it". Summing up, we might put it that, with the juniors, factor I consists of two components: contact assessments, determined by the sympathy the judge feels for the person to be judged, and function assessments. The relative weights of these two components differ for the various groups.

Table 23 showed that factor I of the senior classical students correlated to a high degree with factor I of the 3 groups of junior students (.86, .65, .81). The structure described above was again found with the senior classical students. There, too, the highest-loaded adjectives denoted exclusively good qualities and the lowest-loaded ones exclusively bad ones. As function adjectives we found: practical, conscientious, industrious, rational, energetic, lazy, dumb, – and as contact adjectives: kind, helpful, sincere, frank, modest, rude, ill-mannered, unsympathetic, indifferent, thick-skinned, affected.

Factor I of the senior psychology students is widely different from factor I of all junior students and of the senior classical students, as is obvious from the correlations in Table 23 (.39, .15, .35, .21). The most remarkable fact is that these judges also attributed unfavourable traits to the person to be judged; he is said to be unoriginal, short-sighted, surly, dull, and he is not witty, imaginative, versatile, artistic, cordial, high-strung. This would suggest that their judgment has become more objective and is no longer entirely dependent on a sympathy relation between the judge and the person to be judged. Such a supposition is backed up by

the evidence from the raw scores of the Q-sorts, viz. that this group, too, felt sympathy for the person to be judged.

As to the content of this factor, we believe that we should distinguish between two components here: on the one hand contact assessments and on the other assessments regarding imagination, inventiveness, and mental liveliness. Under contact assessments we have classed: surly, reliable, uncommunicative, dull, submissive, cordial, spontaneous. These contact assessments cannot be put on a level with those found by us with the juniors and with the senior classical students. Presumably we have to do here with an objectivated contact as a separate dimension of the assessment; the sympathy relation between the judge and the person to be judged is no longer in the foreground.

It should be noted that the adjectives clearly expressing this sympathy relation — such as kind, unsympathetic, etc. — did no longer occur in the factor I of this group. As assessments referring to imagination, inventiveness, and mental liveliness we may mention: unoriginal, short-sighted, imaginative, adventurous, thoughtless, witty, versatile, artistic, high-strung. With the present group, these adjectives probably received their true meaning from the other component. The context of contact assessments in which they are placed suggests that the mental liveliness indicated by them lies on a level of social contact. Summing up, we believe we might put it that the senior psychology students, when assessing the traits of the person to be judged, started from the interpersonal contact angle, their perception of this contact being less dependent on the sympathy relation between the judge and the person to be judged. They have put the interpersonal contact more explicitly and more objectively than the other groups of subjects.

Matters are different again with the senior science students. Here the adjectives containing an element of interpersonal contact have been relegated to a very low rank, if they have been mentioned at all. These judges, too, arrive at objectivated assessments: they award favourable as well as unfavourable traits to the person to be judged. With them, factor I consists mainly of function assessments: industrious, critical, rational, hard-headed, energetic, conscientious, intelligent, uncertain, irresolute.

Next to them, we again find adjectives informing us about imagination, inventiveness or mental liveliness: unoriginal, imaginative, narrow-minded, adventurous, short-sighted, thoughtless. However, the context of these adjectives causes us to surmise that this inventiveness and mental live-

liness ascribed to the person to be judged lie on the function level. To the senior science students the question "how is the person to be judged?" sounds as "how does he work?".

At the beginning of the present section we stated that the rotation was done in such a way as to assign a maximal part of the variance to factor I. After rotation, an average of almost 50% of the variance found its explanation in the factor I. The total contribution to the variance by the factors with significant loadings amounted to an average of circa 67 % (cf. Table 22). For the greater part these 67 % were explained by the 50 % in factor I; when interpreting the factors we have confined ourselves to this one important factor.

The findings reported on in this section may be summarized as follows:

a. Among the junior students of the various disciplines there was much concord between the ways of assessment. This is true both for the number of judging categories and for the contentual meaning of the main category.

b. The number of significant judging categories was smaller with the senior students than with the juniors. This was true for the science students in particular.

c. The contentual meaning of the main judging category with the senior classical students showed considerable conformity with the contentual meaning of the main judging category of the junior students of the various disciplines. There was little evidence of the influence of classical studies on the way of assessment.

d. The study of psychology has put its stamp on the way of assessment. The contentual meaning of the main judging category of the senior psychology students differed widely from that of all other groups of subjects.

e. The study of the sciences, too, has put its stamp on the way of assessment. But it has an effect different from that of the study of psychology.

§ 3. *The tendency to ascribe one's own probable reaction to others*

Problem 3 was:

Is the tendency to ascribe one's own probable reaction to others less strong with the senior student of psychology than with the other

senior students? If there is a difference, should it be put down to the choice of psychology as a branch of study or must it be ascribed to the influence of the study of psychology?

The tendency to ascribe one's own probable reaction to others was measured by having all subjects predict their own behaviour in the 25 behaviour situations and comparing these results with their predictions of the behaviour of the person to be judged Thus we were able to determine for each subject the number of behaviour situations in which he might have ascribed his own reaction to the other man * When selecting the alternatives to be predicted (Chapter II, § 4) we kept only those situations presenting an equal probability distribution of the answers *a* and *b*, i e. situations in which one half of the subjects predicted *a* and the other half *b* for their own behaviour ** Now, if there was not a tendency to ascribe one's own probable reaction to the other, the probability distribution of concordant and discordant predictions*** over a group of judges would be fifty-fifty, i e. in each situation one half of the subjects would turn out to have predicted the same behaviour both for themselves and for the person to be judged (cf. Chapter II, § 4). Consequently, should the number of concordant predictions significantly deviate from these 50 %, we would have to conclude that the subjects ascribed their own probable reactions to the person to be judged. We could then examine whether the various groups of subjects showed this tendency to the same degree.

In order to arrive at an answer to Problem 3 we had to test the following hypotheses:

a. The junior psychology student tends less to ascribe his own probable reaction to others than the junior student of another discipline.

b. The senior psychology student tends less to ascribe his own probable reaction to others than the senior student of another discipline.

c The senior psychology student tends less to ascribe his own probable reaction to others than the junior psychology student.

d. The senior student of another discipline tends less to ascribe his

* That the individual judge does, in fact, ascribe his own probable reaction to others cannot be established with absolute certainty Such concord of predictions may also be explained by a real similarity in character between the judge and the person to be judged

** This probability distribution proved to apply also to the subjects participating in the final experiment.

*** Concordant (discordant) prediction = concord (discord) between the prediction of the subject s own behaviour and that of the other person s behaviour

own probable reaction to others than the junior student of such a discipline.

Table 30 presents a survey of the concordance scores of all groups. The concordant predictions of each single subject in each separate behaviour situation are given in Appendix 4.

TABLE 30

Survey of the numbers of concordant predictions

Number of concordant predictions	Junior psychology students	Senior psychology students	Junior classical students	Senior classical students	Junior science students	Senior science students
25						
24						
23						
22	1		1	1	2	
21						
20	1	1	1			
19		1	2	1	1	1
18	1	1	4	2	1	1
17		1		1	2	2
16	3	3	2		2	
15	3	3		2	2	3
14	3	1	2		4	
13	2	2	1	4	1	1
12				1		2
11	1	2		1	1	1
10		1	1		1	1
9						1
8						
7						
6						
5						
4						
3						
2						
1						
0						
Number of subjects	15	16	14	13	17	13

Table 30 shows that all groups with the exception of the senior science students ascribed their own probable reactions significantly more often to the other than could be expected from mere chance. The calculation according to the χ^2-method resulted in the following figures:

junior psychology students :	$\chi^2 =$	10.712, $p < 0.01$
senior psychology students :	$\chi^2 =$	7.678, $p < 0.01$
junior classical students :	$\chi^2 =$	21.194, $p < 0.01$
senior classical students :	$\chi^2 =$	8.303, $p < 0.01$
junior science students :	$\chi^2 =$	14.211, $p < 0.01$
senior science students :	$\chi^2 =$	2.596, $p > 0.05$

For a verification of our hypotheses the Mann-Whitney *U*-test was used. Hypothesis *a* was rejected ($p > 0.05$), this rejection relating both to a comparison of junior psychology students with junior classical students and to a comparison of junior psychology students with junior science students. *In the present experiment it was not proved that junior psychology students when assessing their fellow-men tend less to ascribe their own probable reactions to the person to be judged than junior classical students or junior science students.*

Hypothesis *b* was also rejected ($p > 0.05$), this rejection relating both to a comparison of senior psychology students with senior classical students and to a comparison of senior psychology students with senior science students. *In the present experiment it was not proved that senior psychology students when assessing their fellow-men tend less to ascribe their own probable reactions to the person to be judged than senior classical students and senior science students.*

The hypotheses *c* and *d* were rejected likewise ($p > 0.05$). *In the present experiment did neither the study of psychology nor the study of the classics or that of the sciences prove to have a diminishing effect on their adepts' tendency to ascribe, when assessing a fellow-man, their own probable reactions to the person to be judged.*

§ 4. *The conviction with which a judgment on someone else is given*

Problem 4 read :

> Is the senior student of psychology when giving his judgment on a person less sure than the senior student of another discipline? Should such a difference be put down to the choice of psychology as a branch of study or must it be attributed to the influence of the study of psychology ?

For each single behaviour situation the subjects indicated the degree of certainty of their prediction, using the scale described in Chapter II § 1.

Table 31 gives a survey, for all subjects, of the average degrees of conviction of the predictions. The degrees of conviction for each subject in each single behaviour situation are found in Appendix 5.

TABLE 31

Survey of the average degrees of conviction of the predictions

Average degree of conviction for the 25 predictions	Junior psychology students	Senior psychology students	Junior classical students	Senior classical students	Junior science students	Senior science students
7.5	1					
7.4						
7.3						
7.2						
7.1	1			1		
7.0						
6.9			1			
6.8						1
6.7						
6.6			2	1	2	
6.5		1	1			
6.4	1					
6.3						
6.2	1					
6.1					1	1
6.0	1				2	
5.9				1	2	1
5.8		1	2	1	1	
5.7	1	1	1			1
5.6		1	1		2	1
5.5	2					
5.4		1	2			
5.3			1	2	1	
5.2	1	1		1		
5.1	1	1	1			
5.0	2				1	
4.9	1	2	1	1		
4.8				1		1
4.7			1	1		
4.6	1	2				1
4.5					1	
4.4					1	3
4.3		1		1		
4.2		1				
4.1				1		
4.0		3				
3.9						1
3.8						1
3.7					1	1
3.6	1			1	1	
3.5						
3.4					1	
Number of subjects	15	16	14	13	17	13

In order to arrive at an answer to this problem we had to test the following hypotheses:

a. The junior psychology student will predict the behaviour of a person to be judged with less conviction than the junior student of another discipline.

b. The senior psychology student will predict the behaviour of a person to be judged with less conviction than the senior student of another discipline.

c. The senior psychology student will predict the behaviour of a person to be judged with less conviction than the junior psychology student.

d. The senior student of another discipline will predict the behaviour of a person to be judged with less conviction than the junior student of such a discipline.

The validity of our hypotheses was tested with the help of the Mann-Whitney *U*-test. On the strength of the data collected by us hypothesis *a* was rejected ($p > 0.05$), this p referring both to a comparison of the junior psychology students with the junior classical students and to a comparison of the junior psychology students with the junior science students. *In the present experiment the junior psychology students did not prove to be less sure in their predictions of the behaviour of a person to be judged than the junior classical students and the junior science students.*

Hypothesis *b* was likewise rejected ($p > 0.05$), this rejection referring both to a comparison of senior psychology students with senior classical students and to a comparison of senior psychology students with senior science students. *In the present experiment the senior psychology students did not prove to be less sure in their predictions of the behaviour of a person to be judged than the senior classical students and the senior science students.*

Hypothesis *c* was confirmed ($p < 0.05$). *In the present experiment the senior psychology students proved to be less sure in their predictions of the behaviour of a person to be judged than the junior psychology students.*

Hypothesis *d* was rejected ($p > 0.05$). For this rejection, however, a restriction must be made with regard to the senior classical students. The *U* found with this group was 58, whereas the critical *U* was 56. So we may assume that this group, if the number of its members were extended, would reach the 5 %-threshold, as in contrast with the senior science students ($U = 88.5$; critical $U = 70$). *We may, therefore, conclude*

that in the present experiment the senior science students were not less sure in their predictions than the junior science students. We have reasons to believe, however, that in the present experiment the senior classical students were less sure than the junior classical students.

§ 5. *The relation between the conviction with which a judgment on someone else is given and the correctness of that judgment*

Problem 5 read:

> Is there a relation between the conviction with which a judgment on someone else is given and the correctness of that judgment? If so, is this relation more manifest with the senior student of psychology than with the senior student of another discipline? Should any difference be put down to the choice of psychology as a branch of study or must it be ascribed to the study of psychology?

In order to arrive at an answer to the last two questions we had to test the following hypotheses:

a. The relation between the conviction with which a judgment on someone else is given and the correctness of that judgment is more manifest with the senior psychology student than with the senior student of another discipline.

b. The relation between the conviction with which a judgment on someone else is given and the correctness of that judgment is more manifest with the senior psychology student than with the senior student of another discipline.

c. The relation between the conviction with which a judgment on someone else is given and the correctness of that judgment is more manifest with the senior psychology student than with the junior psychology student.

d. The relation between the conviction with which a judgment on someone else is given and the correctness of that judgment is more manifest with the senior student of another discipline than with the junior student of such a discipline.

Table 32 gives a survey of the correlation coefficients found for each subject. The calculation of these correlations was done with the help of the point-biserial method. *

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* 89, p. 301 ff.

TABLE 32

Correlation coefficients indicating the relation between the conviction with which a judgment on someone else is given and the correctness of that judgment

No. of subject	Junior psychology students	Senior psychology students	Junior classical students	Senior classical students	Junior science students	Senior science students
1	0.33	0.06	0.18	0.48+	–0.12	0.16
2	0.43+	0.19	0.08	0 02	0.24	0.11
3	0.47+	0.19	–0.01	0.03	0.04	–0.07
4	0.19	0.08	–0.04	–0.13	–0.14	0.14
5	–0.42+	0.13	0.63+	0.14	0 38	0 07
6	0.18	–0.05	–0.27	0.44+	0.38	–0.19
7	–0.17	–0.05	–0.01	0.22	–0.51+	–0.35
8	0.03	0.21	0.10	0.40+	–0.11	–0.33
9	0.01	–0.04	0.23	0.05	–0.04	0.03
10	0.01	–0.14	0.17	–0.05	–0.18	0.11
11	–0 12	0.04	0.16	0.11	–0.28	0.03
12	0.03	0.35	0.07	0.20	0.46+	0.18
13	0.02	–0.13	–0.19	0.31	0.06	0.10
14	0.32	0.13	–0.32		–0.19	
15	0.18	–0 23			–0.02	
16		0.17			–0.23	
17					–0.14	

+ = significant correlation coefficient ($p < 0.05$)

As appears from Table 32, a significant correlation coefficient ($p < 0.05$) was found with no more than 9 out of the 88 subjects, the coefficient in two cases even being negative. With most subjects (90 %) we did not find any significant correlation coefficient, but we found one that was very small, positively as well as negatively. These findings would seem to point strongly to a confirmation of the null hypothesis. For this reason we have concluded on the strength of the results given in Table 32 that in the present experiment no relation was found between the conviction with which a judgment on someone else was given and the correctness of that judgment. After this conclusion there was no point in a verification of our hypotheses. It should be stated here that the conclusion formulated above applies in particular to the group of senior psychology students. With these 16 subjects not a single significant correlation coefficient was found (cf. Table 32).

The absence of a relation between the conviction with which a judgment on someone else is given and the correctness of that judgment has

been demonstrated before. This conclusion is found with Wallin [103], Valentine [191], and Polansky [152]. Allport [6], on the other hand, believes that the conviction with which a judgment is given, is an indication for the reliability of that judgment. His view is supported by Goodenough [84]. Allport founds his hypothesis on the consideration that we can only be certain about the behaviour of someone else if the person to be judged possesses (or does not possess) the relevant trait to an extreme degree.

However, there would not seem to be sufficient ground for the *general* statement that there exists a relation between the conviction with which judgments on other people are given and the correctness of those judgments. The presence or absence of such a relation probably depends very much on the actual situation. It is more likely to exist when good acquaintances are being assessed than when the predictions regard mere strangers. When judging strangers the judge has fewer facts to go by than when judging acquaintances. When judging the latter he is in a position to verify a supposed dispositional trait in the person to be judged from many previously observed behaviour patterns. In a judgment on strangers the absence of a relation between the correctness of the predictions and the conviction with which they are given, may be due to:

a. absence of reliable supports (points of anchorage) for the predictions;

b. shortcomings on the part of the judges.

The large number of correct predictions in our experiment may be attributed to the presence of reliable objective supports for the judgments in the 25 situations. On the other hand there were also a good many false predictions, pronounced with various degrees of conviction. In case of these false predictions the subjects did not make a correct use of the available points of anchorage. The supposition would seem justified that in the present experiment the absence of a relation between the conviction with which the predictions are given and their correctness, is to be put down to shortcomings on the part of the judges.

Wallin [103] suggests an explanation for the absence of a relation, in certain cases, between the conviction with which a judgment is given and the correctness of that judgment. He thinks that one of the causes of false judgments originates from "projection" on the part of the judge, and he assumes that "judges having a tendency to project the own characteristics on the subjects they judge are most likely to have greater confidence in their conclusions". * Thus the absence of a relation between the con-

* 103, p. 228.

viction with which a judgment is given and its correctness would be due to "projection". Now our material did not allow of testing the validity of Wallin's explanation. For such a purpose two groups of subjects would be needed. One group would have to consist of subjects inclined to ascribe their own probable reactions to the person to be judged, whereas in the other group this tendency would have to be entirely absent. Leaving aside the question whether such a grouping would be at all feasible, we must admit that in our investigation we have been unable to achieve one. A high or low concordance score for an individual judge does not give us any certainty about his tendency or aversion to ascribe his own probable reactions to the other person (cf. § 3 of this chapter).

What *is* possible in our experiment is to compare the degrees of certainty with which the concordant predictions (including those predictions in which the tendency to ascribe the subject's own probable reaction to others was manifest) were given by each single subject with those of his discordant predictions. It then turns out that the concordant predictions were given with greater conviction than the discordant ones. However, this is not a stringent test of Wallin's hypothesis, because we are concerned here with the concordant and discordant predictions of one same judge, who has or has not a tendency to ascribe his own probable reaction to others. It would be wrong to presume that this tendency is present in part of the concordant predictions and is absent in the discordant ones.

The explanation suggested by Taft of the low correlation between conviction and accuracy of judgment also deserves our attention. Taft holds that this correlation is co-determined by the personality of the judges. He argues:

"It may be that the contradictory findings reported above can be resolved by hypothesizing that within the middle range of judges, certainty and accuracy are positively correlated, while in the top and bottom extreme of confidence there are those poor judges who try to compensate for their own ineptness by an unreasonable show of confidence and those who lack confidence because they know that they are poor at judging. Thus, the direction of correlation between accuracy and confidence will be a function of the range of judges involved, and their set in making the judgments and in indicating their degrees of confidence. This hypothesis cannot be tested on the evidence as yet available" (184, p. 27).

Nor was it possible to test this hypothesis on the data gathered by us.

Summarizing, we might state:

The data reported in this section show that in the present experiment no significant relation was found between the conviction with which a

judgment on someone else was given and the correctness of that judgment. Such a relation was not more manifest with the senior psychology students than with the junior psychology students and the subjects in the control groups. We are inclined to ascribe the absence of a significant relation to shortcomings on the part of the judges.

§ 6. *Stability of assessment*

Problem 6 was formulated as follows:

> Is the senior student of psychology rather than the senior student of another discipline inclined to infer from a given piece of information about a person indications apt to influence the picture he has formed of that person? Should any difference be put down to the study of psychology or must it be ascribed to the choice of psychology as a branch of study?

When all subjects had given their predictions of the behaviour of the person to be judged in the 25 behaviour situations, additional information about this person was supplied. This adequate information was: "He is a man from the South and the eldest of five children." We then had the subjects once more predict the behaviour of the person to be judged in the 25 behaviour situations.

TABLE 33

Number of predictions changed by each subject

No. of subject	Junior psychology students	Senior psychology students	Junior classical students	Senior classical students	Junior science students	Senior science students
1	3	5	11	1	6	13
2	5	0	2	12	3	4
3	4	3	3	5	5	6
4	6	4	9	5	8	11
5	5	5	10	6	3	2
6	4	5	5	9	1	3
7	8	7	7	4	7	5
8	2	2	15	1	9	2
9	2	3	12	11	9	9
10	8	7	5	8	2	3
11	8	3	11	7	7	1
12	4	1	1	8	4	5
13	5	4	4	7	4	4
14	10	6	6		11	
15	7	2			7	
16		3			7	
17					4	

Table 33 gives a survey for each subject of the number of changed predictions; Table 34 gives the modifications occurring in each subject's prediction score. Thus in the data recorded in Table 34 positive and negative modifications in the predictions of each subject have been added, with due observance of plus and minus signs.

TABLE 34

Modifications in prediction scores

No. of subject	Junior psychology students	Senior psychology students	Junior classical students	Senior classical students	Junior science students	Senior science students
1	+3	-5	-11	-1	-2	+3
2	-1	0	0	0	+1	+2
3	0	+1	-1	-1	+3	-4
4	+2	0	+3	+3	0	+3
5	+1	-1	-8	+2	-1	-2
6	+4	+1	+5	-1	+1	+1
7	-2	-1	+3	0	-5	+1
8	0	0	-5	+1	+7	-2
9	0	-1	0	-5	+3	+1
10	+2	-5	+5	0	0	+1
11	+6	+1	+5	-5	+1	-1
12	+2	+1	-1	0	+2	-1
13	-1	0	+2	-5	-4	-2
14	-4	-4	0		-3	
15	-5	0			+1	
16		-1			+1	
17					+2	

On comparing with the help of the Mann-Whitney U-test the numbers of changed predictions in the various groups of subjects it appeared that:

a. In the present experiment the junior psychology students did not change a greater or smaller number of predictions than the junior classical students and the junior science students ($p > 0.05$).

b. In the present experiment the senior psychology students changed a smaller number of predictions than the junior psychology students ($p < 0.05$).

c. In the present experiment the senior classical students and the senior science students did not change a greater or smaller number of predictions than the junior classical students and the junior science students ($p > 0.05$).

d. In the present experiment the senior psychology students changed

a smaller number of predictions than the senior classical students ($p < 0.05$); however, they did not change a smaller number of predictions than the senior science students ($p > 0.05$).

The first question at the head of this section is answered by us in the negative. The material gathered even admits of the conclusion that the senior psychology students were less inclined to change their predictions after the additional information than the remaining groups, with the exception of the senior science students. We have ascribed this difference to the influence of the study of psychology (see *sub a* and *b*).

Table 34 shows that there is not a single group with which the prediction score increases significantly (Sign test, $p > 0.05$). This opens various ways of interpretation for the first conclusion, for it may be that under the influence of his studies the senior student of psychology tends to stabilize a once formed picture of an individual's personality to a greater extent than the advanced student of another discipline.

There is, however, another plausible interpretation. Since not a single group gave significantly better predictions of the behaviour of the person to be judged after the additional information had been supplied, we may take this to mean that for these groups of subjects that information was not relevant with regard to the predictability of the 25 behaviour situations. The small number of changed predictions with the senior students of psychology may, then, be interpreted also in their favour: these subjects may have seen through the irrelevancy of this information or at any rate have attached less importance to it. The present experiment does not admit of a decision in favour of either interpretation.

Nor does a comparison of the changes in the subjective certainty (conviction) with which the predictions were done give us a definite answer. Table 35 presents the modifications in the average degrees of certainty for all subjects.

Table 35 shows that only the senior psychology students and the senior classical students, as groups, became less sure in their predictions (Sign test, $p < 0.05$). A comparison with the help of the Mann-Whitney *U*-test of the changes in the degrees of certainty in the various groups led to the following conclusions:

a. The conviction of the junior psychology students did not become less strong than that of the other junior students ($p > 0.05$).

TABLE 35

Modifications in the average degrees of certainty

No of subject	Junior psychology students	Senior psychology students	Junior classical students	Senior classical students	Junior science students	Senior science students
1	+02	+02	−08	−01	+05	−26
2	+04	−02	+10	+02	+07	−02
3	+04	−10	−04	−04	−03	−07
4	−06	−12	−03	−01	00	−11
5	−02	−07	−04	−04	−05	−01
6	00	−06	−01	−05	−03	+07
7	+05	−04	−05	00	−05	−06
8	−06	−01	+08	−04	+03	−04
9	−04	+02	+06	−06	−08	−10
10	−08	−02	00	−08	−06	+01
11	+06	+02	−02	−02	−04	−05
12	−01	−08	+02	−10	+14	+02
13	00	−03	−08	−02	−08	*)
14	+07	−05	+09		−03	
15	+05	−06			−13	
16		−01			−03	
17					+03	

*) This subject did not indicate his degree of certainty after the additional information

b. The conviction of the senior psychology students became less strong than that of the junior psychology students ($p < 0.05$).

c. There is a good chance that conclusion *b* was also valid for the senior classical students ($U = 63\,5$, critical $U = 56$), not, however, for the senior science students ($p > 0\,05$).

d The conviction of the senior psychology students did not become less strong than that of the senior classical students and the senior science students ($p > 0\,05$).

These conclusions are in agreement with the results as reported in § 4 of the present chapter.

In the present section is shown that after the additional information the senior psychology students changed a smaller number of their predictions than the other groups of subjects. The conviction with which these predictions were given by the senior psychology students did not decrease to a greater extent than that of the senior classical students and the senior science students. That conviction did, indeed, become less under the in-

fluence of the study of psychology, but this tendency was also found for the study of the classics.

These findings are open to two interpretations:

a. The senior psychology students may have tended to stabilize the once formed picture of an individual's personality to a larger extent than the other subjects.

b. They may have considered the additional information to be irrelevant.

The present experiment does not admit of a decision in favour of either interpretation, there being no certainty as to the relevancy of the additional information.

§ 7. *Concluding remarks*

In the previous sections we have attempted to answer the 6 problems raised in Chapter I. Objections might be made against the operational definition of the concept of "practical knowledge of man" and against our way of measuring that knowledge, against our decision to select only one person to be judged, against our method of supplying the judges with information about this person, or against our criterion for the correctness of the behaviour predictions. But also those agreeing to the way in which the present experiment was conducted, might be inclined, all the same, to interpret the results in such a way as to arrive at unwarranted conclusions, such as:

a. The psychologist is no judge of people.

This conclusion goes too far, since, *inter alia*, in the present investigation not a single experienced psychologist co-operated as a subject. Our study exclusively refers to students taking an academic course in psychology.

b. The psychological student is no judge of people.

We concluded that the study of psychology does not increase the practical knowledge of man. This does not imply that the student of psychology cannot be a judge of people. Our material showed that there are among the students of psychology no less than among the other groups of subjects good judges of people as well as bad ones. Moreover, our conclusion was valid only for the practical knowledge of man as put to the test in the present investigation; also, it bore on one particular form of psychological training only.

c. When a psychologist gives a judgment on an individual (c.q. gives an advice) with great personal conviction, this is not to say that his judgment is therefore correct.

In the present investigation the professional psychologist's knowledge of man has not been explicitly dealt with. Also, the practising psychologist who gives a professional judgment on a person will generally have at his disposal the findings of a psychological test carried out with the help of a greater or lesser amount of technical aids and appliances. These findings and the certainty they may give were no objects of study in the present investigation.

d. Once a psychologist has formed a picture of a person's character he is not inclined to introduce further modifications of his judgment.

This conclusion is not correct either, since in the present experiment there was only question of psychologists-to-be. Even with regard to the latter such a conclusion would be rather rash. The finding that after supply of additional information senior psychology students changed their predictions less than the other groups of subjects had to be left open for various interpretations.

e. The training in psychology does not answer its purpose.

Such a general statement is not free from one-sidedness. It starts from the misapprehension that the sole object of a training in psychology is to improve the psychologist's practical knowledge of man.

f. To a professional psychologist his personal traits are more important than a scientific training.

Apart from the rashness of this conclusion – in the present investigation no statement was made on the professional psychologist – it is also incorrect. A professional psychologist has different means at his disposal to provide him with more or less reliable judgments.

What then, are the actual conclusions to be drawn from the results of the present investigation? Summing up, we might state them as:

a. University entrants who choose psychology as a field of study generally do not possess a greater amount of practical knowledge of man than entrants who take up other disciplines. Consequently, practical knowledge of man is not a co-determinant factor for the choice of psychology as a field of study.

b. Neither the scientific study of psychology nor the practical experience gained in the course of such studies will augment the practical knowledge of man to a greater extent than other academic studies.

c. The cultivation of the mind that goes with any academic study does not seem to augment the practical knowledge of man.

For this reason an increase, if any, in practical knowledge of man appears to occur independently of academic studies; independently, indeed, of a training in psychology. At first sight this conclusion would seem to be questionable. But is it still questionable when we consider that the scientific methods with which we have become familiar through academic studies are not a direct continuation of naive psychology? After all, modern physics do not seek to specify our commonplace knowledge of nature either. In the same way it will often be possible both to understand the behaviour of another person and to predict what he will do in certain circumstances even without the intervention of scientific psychology. This direct, intuitive, non-reflexive knowledge of our fellow-man forms part of the naive psychology that every human being employs more or less successfully. It is, indeed, a general and subjective knowledge. But this subjective-intuitive knowledge can be a starting-point for scientific psychology in so far as it can provide us with hypotheses verifiable with the help of scientific methods. Thus scientific psychology does not restrict itself to subjective knowledge; it goes further and tries to see such knowledge objectively, pinning it down in a theory that comprises the laws by which human behaviour is ruled. As Stern puts it, naive psychology is based on "Meinen und Glauben" (opinion and belief), scientific psychology, on the other hand, on "Forschen und Denken" (investigation and thought). *

If we consider the scientific interpretation of our everyday empiric knowledge – often superficial – to be not the sole but one of the objects of scientific psychology, we may ask on account of the findings of the present investigation whether our training in psychology has not lost touch with naive psychology.

The question seems justified whether it is at all possible to improve upon a person's practical knowledge of man through a training in psychology. Who answers this question in the negative will deem it advisable in psychological training to stress the study of objective psychological methods. For it seems at least likely that the student of psychology, particularly when possessing but little practical knowledge of man, will arrive at better behaviour predictions in his future professional practice by means of objective methods. Reliable and validated objective methods will enable us to verify that image of the other obtained through subjective intuition.

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* 177, p. 6.

We mentioned above that the present investigation only refers to the practical knowledge of man of the psychology student who is about to finish his studies. In fact, the practical knowledge of man of the scientifically schooled psychologist with professional experience over a longer period of time may show further development. The literature, indeed, records experiments demonstrating that it is possible for the practical knowledge of man to increase under the influence of considerable training and experience in judging people. * This is the more likely to happen when that training and experience have been preceded by a scientific psychological schooling. In such a way the influence of psychological studies on the practical knowledge of man would not become manifest until in later years.

The present experiment emphasizes the desirability of experimental verification of this supposition. Such verification becomes essential when we consider the fact that among the professional psychologists there are many who make ample use of their practical knowledge of man. This is notably the case when they are to give advice and have no opportunity for methodical scientific investigation. But if in their psychological examinations they deliberately make use of their practical knowledge of man, the chance may be that this practical knowledge of man – maybe a poor one – will be interwoven in the technique of psychological examination, thus causing the objective statistical data to be distorted by the subjective ones of intuition. It seems desirable that psychologists engaged in the study of problems only partly – if at all – open to objective statistical research methods, should know to what extent of reliability their practical knowledge of man may serve as an instrument in their psychological practice.

* 3, 58, 90, 106.

SUMMARY

In the Introduction we stated as the theme of our investigation the influence of the study of psychology on the practical knowledge of man.

A specification of this theme, split up into six problems, was given in Chapter I:

1. Does the senior student of psychology possess a better practical knowledge of man than the senior student of another discipline?

2. Does the senior student of psychology, when judging his fellow-men, use categories different from those used by the senior student of another discipline; does he, perhaps, use more or less categories than the latter? Does the value attached by him to certain categories of judgment differ from that attached to the same categories by the senior student of another discipline?

3. Is the tendency to ascribe one's own probable reaction to others less strong with the senior student of psychology than with other senior students?

4. Is the senior student of psychology when giving his judgment on a person less sure than the senior student of another discipline?

5. Is there a relation between the conviction with which a judgment on someone else is given and the correctness of that judgment? If so, is this relation more manifest with the senior student of psychology than with the senior student of another discipline?

6. Is the senior student of psychology rather than the senior student of another discipline inclined to infer from a given piece of information on a person indications apt to influence the picture he has formed of that person?

For each of these six points we examined whether any difference between senior psychology students and senior students of other disciplines should be ascribed to the influence of the study of psychology; we also tried to find data pointing to a possible influence of already existing differences on the choice of psychology as a branch of study.

Chapter II gives a description and an account of the experimental set-up. By *practical knowledge of man* we understood the ability to predict an individual's concrete, universally human behaviour in a particular

situation. By the *study of psychology* we meant the academic study of psychology at Nijmegen University, extending over at least five years. Our subjects were:

a. 15 junior psychology students,
b. 16 senior psychology students (at least five years of study),
c. 14 junior classical students,
d. 13 senior classical students.
e. 17 junior science students,
f. 13 senior science students.

A motivation of our selection of these groups of subjects was given in Chapter II, § 6.

In a number of experimental sessions the subjects were confronted with one and the same person to be judged. During all of them this person behaved in exactly the same manner; at each session the same two tasks appointed to him by the experimenter were performed by him in exactly the same way. In this way the subjects had an opportunity to observe the person to be judged for about 15 minutes (for the selection of the available information concerning the person to be judged, see Chapter II, § 8). With the help of this information each subject described the person to be judged by means of a Q-sort (for the composition of the Q-sort, see Chapter II, § 3).

Then all subjects predicted the behaviour of the person to be judged in 25 behaviour alternatives (for the selection of the behaviour alternatives see Chapter II, § 4; for the criterion for correctness of the behaviour predictions see Chapter II, § 7). The subjects indicated the degree of certainty of their 25 judgments by means of a pre-arranged scale.

Next, on a piece of paper, new adequate information about the person to be judged was introduced (see Chapter II, § 1). After this the subjects once more predicted the behaviour of the person to be judged in the behaviour alternatives, again stating the degree of certainty of their predictions. Finally, all subjects gave also their own probable behaviour in the 25 situations, likewise indicating their degrees of certainty.

The experimental sessions lasted about two hours each. The person to be judged was present throughout each session. Having provided the information he started reading a book, without further saying or doing anything.

The findings of the investigation are discussed in Chapter III. Our six problems are answered thus:

Problem 1

a. In the present experiment the junior psychology students did not manifest more practical knowledge of man than the junior students of the classics and of the sciences.

b. The senior psychology students did not manifest more practical knowledge of man than the senior students of the classics and of the sciences.

c. Neither an increase nor a decrease of the practical knowledge of man under the influence of the study of psychology on the one hand or of the study of the classics or the sciences on the other, could be demonstrated.

Problem 2

a. Among the junior students of the various disciplines much concord between their ways of assessment was found. This is true both for the number of judging categories and for the contentual meaning of the main category.

b. The number of significant judging categories was smaller with the senior students than with the juniors. This was particularly true for the science students.

c. The contentual meaning of the main judging category with the senior classical students showed considerable conformity with the contentual meaning of the main judging category with the junior students of the various disciplines. There was little evidence of the influence of classical studies on the way of assessment.

d. The study of psychology has put its stamp on the way of assessment. The contentual meaning of the main judging category of the senior psychology students differed widely from that of all other groups of subjects.

e. The study of the sciences, too, has put its stamp on the way of assessment. But it has an effect different from that of the study of psychology.

Problem 3

a. In the present experiment it was not proved that junior psychology students when assessing their fellow-men tend less to ascribe their own probable reactions to the person to be judged than junior classical students or junior science students.

b. Senior psychology students did not tend less to ascribe their own probable reactions to the person to be judged than senior students of the classics or of the sciences.

c. Neither the study of psychology nor the study of the classics or that of the sciences did prove to have a diminishing effect on their adepts' tendency to ascribe, when assessing a fellow-man, their own probable reactions to the person to be judged.

Problem 4

a. In the present experiment the junior psychology students did not prove to be less sure in their predictions of the behaviour of a person to be judged than the junior classical students and the junior science students.

b. The senior psychology students did not prove to be less sure in their predictions than the senior classical students and the senior science students.

c. The senior psychology students proved to be less sure in their predictions than the junior psychology students.

d. The senior science students were not less sure than the junior science students.

e. We have reasons to believe that, in the present experiment, the senior classical students were less sure in their predictions than the junior classical students.

Problem 5

In the present experiment no significant relation was found between the conviction with which a judgment on someone else was given and the correctness of that judgment. Such a relation was not more manifest with the senior psychology students than with the junior psychology students and the subjects in the control groups.

Problem 6

a. In the present experiment, after supply of the additional information, the senior psychology students changed a smaller number of their predictions than the other groups of subjects.

b. The conviction with which these predictions were given by the senior psychology students did not decrease to a greater extent than that of the senior classical students and the senior science students.

c. That conviction did, indeed, become less under the influence of the study of psychology, but this tendency was also found for the study of the classics.

d. For the findings as stated *sub* 6 two interpretations proved to be possible. A decision in favour of one of these interpretations could not be given, there being no certainty as to the relevancy of the additional information.

In Chapter III, § 7 the danger of drawing rash conclusions from the present investigation was pointed out. In that section our findings were summarized and discussed. Finally, it was deemed desirable that a similar investigation could be extended over professional psychologists, to a good many of whom their practical knowledge of man is one of their indispensable instruments.

SAMENVATTING

In de Inleiding werd als thema van dit onderzoek gesteld de vraag naar de invloed van de studie in de psychologie op de praktische mensenkennis.

Dit thema werd in Hoofdstuk I nader gespecificeerd en in de volgende zes vraagstellingen uiteengelegd:

1. Beschikt de gevorderde psychologiestudent over een betere praktische mensenkennis dan de gevorderde niet-psychologiestudent?
2. Maakt de gevorderde psychologiestudent bij het beoordelen van zijn medemensen gebruik van andere, van meer of minder beoordelingscategorieën dan de gevorderde niet-psychologiestudent? Kent hij aan bepaalde beoordelingscategorieën een ander gewicht toe dan de gevorderde niet-psychologiestudent?
3. Is de neiging om bij het beoordelen van anderen de eigen reactiegeneigdheid toe te schrijven aan die anderen bij de gevorderde psychologiestudent kleiner dan bij de gevorderde niet-psychologiestudent?
4. Is de gevorderde psychologiestudent bij het doen van uitspraken over een te beoordelen persoon subjectief minder zeker dan de gevorderde niet-psychologiestudent?
5. Bestaat er een verband tussen de subjectieve zekerheid waarmee een uitspraak wordt gedaan over een ander en de juistheid van die uitspraak? Is dit verband bij de gevorderde psychologiestudent duidelijker aanwezig dan bij de gevorderde niet-psychologiestudent?
6. Is de gevorderde psychologiestudent eerder dan de gevorderde niet-psychologiestudent geneigd uit een gegeven informatie over een persoon indicaties te putten die het beeld, dat hij zich vormde van die persoon, zullen beïnvloeden?

Bij al deze vraagstellingen gingen wij na of een mogelijk verschil tussen gevorderde psychologiestudent en gevorderde niet-psychologiestudent moest worden toegeschreven aan de invloed van de studie in de psychologie en speurden wij naar informatie over een mogelijke invloed van reeds bestaande verschillen bij de keuze van psychologie als studievak.

Hoofdstuk II geeft de beschrijving en verantwoording van de experi-

mentele opzet. Onder *praktische mensenkennis* werd in dit onderzoek verstaan het kunnen voorspellen van de concrete algemeen menselijke gedragingen, die een bepaald iemand in bepaalde situaties zal manifesteren. Met *studie in de psychologie* werd bedoeld een academische studie in de psychologie aan de Nijmeegse Universiteit gedurende minstens vijf jaar.

Als proefpersonen namen aan het onderzoek deel

a. 15 eerste jaars psychologiestudenten,

b. 16 gevorderde psychologiestudenten (zesde jaars, of ouder),

c. 14 eerste jaars classici,

d. 13 gevorderde classici,

e. 17 eerste jaars studenten uit de wis- en natuurkunde faculteit,

f. 13 gevorderde studenten uit de wis- en natuurkunde faculteit.

Een motivering van de keuze van deze groepen van proefpersonen werd gegeven in Hoofdstuk II, § 6

De proefpersonen werden in een aantal experimentele zittingen geconfronteerd met eenzelfde te beoordelen persoon (voor de selectie van de te beoordelen persoon zie Hoofdstuk II, § 5) Deze te beoordelen persoon gedroeg zich tijdens alle zittingen op dezelfde wijze; hij loste bij iedere zitting dezelfde twee opdrachten, die de proefleider hem gaf, op gelijke wijze op De proefpersonen kregen op die manier de gelegenheid om de te beoordelen persoon gedurende ongeveer vijftien minuten te observeren (voor de selectie van de informatie die over de te beoordelen persoon beschikbaar was, zie Hoofdstuk II, § 8). Aan de hand van de aldus verkregen informatie legde iedere proefpersoon het beeld dat hij zich vormde van de te beoordelen persoon neer in een Q-sort (voor de samenstelling van de Q-sort zie Hoofdstuk II, § 3).

Daarna voorspelden alle proefpersonen het gedrag van de te beoordelen persoon in 25 gedragssituaties (voor de selectie van deze gedragssituaties zie Hoofdstuk II, § 4, voor het bepalen van het criterium voor de juistheid van de gedragsvoorspellingen zie Hoofdstuk II, § 7). Daarbij duidden de proefpersoon op een schaal de graad van zekerheid aan waarmee zij het gedrag van de te beoordelen persoon in ieder van de 25 gedragssituaties voorspelden.

Vervolgens werd aan de proefpersonen schriftelijk een nieuwe waarheidsgetrouwe informatie over de te beoordelen persoon medegedeeld (zie Hoofdstuk II, § 1). De proefpersonen voorspelden hierna opnieuw de gedragingen van de te beoordelen persoon in de 25 gedragssituaties en gaven eveneens opnieuw de graden van subjectieve zekerheid bij deze voorspellingen aan.

Tenslotte hebben alle proefpersonen ook hun eigen gedragswijzen in de 25 situaties vermeld; tevens gaven zij bij ieder van deze 25 situaties de zekerheidsgraad aan waarmee zij het eigen gedrag hadden voorspeld.

De experimentele zittingen duurden gemiddeld ongeveer twee uur. De te beoordelen persoon was gedurende de hele zitting aanwezig. Na het verschaffen van de informatie las hij in een boek zonder nog iets te zeggen of te doen.

De resultaten van het onderzoek werden besproken in Hoofdstuk III. De zes vraagstellingen werden als volgt beantwoord:

Vraagstelling 1

a. In dit experiment gaven de eerste jaars psychologiestudenten er geen blijk van, dat zij over een betere praktische mensenkennis beschikten dan de eerste jaars classici of de eerste jaars studenten uit de wis- en natuurkunde faculteit.

b. De gevorderde studenten in de psychologie bleken niet over een betere praktische mensenkennis te beschikken dan de gevorderde classici of de gevorderde studenten uit de wis- en natuurkunde faculteit.

c. Noch onder invloed van de studie in de psychologie noch onder invloed van de studie der oude letteren en van de studie der wis- en natuurkunde was een toename van de praktische mensenkennis aantoonbaar.

Vraagstelling 2

a. Bij de eerste jaars studenten van de verschillende studierichtingen bestond grote overeenstemming in de wijze waarop zij de te beoordelen persoon beoordeelden. Dit geldt zowel voor het aantal beoordelingscategorieën als voor de inhoudelijke betekenis van de belangrijkste beoordelingscategorie.

b. Het aantal significante beoordelingscategorieën was bij gevorderde studenten geringer dan bij eerste jaars studenten. Dit verschil was het grootst bij gevorderde en eerste jaars studenten uit de wis- en natuurkunde faculteit.

c. De inhoudelijke betekenis van de belangrijkste beoordelingscategorie bij gevorderde classici kwam in belangrijke mate overeen met de inhoudelijke betekenis van de belangrijkste beoordelingscategorie bij eerste jaars studenten van de verschillende studierichtingen. Van de studie der oude talen is weinig invloed merkbaar geweest op de wijze waarop de persoon werd beoordeeld.

d. De studie in de psychologie heeft een stempel gedrukt op de wijze waarop de beoordeling plaats vond. De inhoudelijke betekenis van de belangrijkste beoordelingscategorie bij gevorderde psychologiestudenten week in belangrijke mate af van die betekenis bij alle andere groepen van proefpersonen.

e. Ook de studie der wis- en natuurkunde drukte een stempel op de wijze van beoordelen. De invloed van deze studie was een andere dan de invloed van de studie in de psychologie.

Vraagstelling 3

a. In dit experiment is niet gebleken, dat eerste jaars psychologiestudenten bij het beoordelen van een medemens in mindere mate de eigen reactiegeneigdheid toeschreven aan de te beoordelen persoon dan eerste jaars classici of eerste jaars studenten uit de wis- en natuurkunde faculteit.

b. Gevorderde psychologiestudenten schreven de eigen reactiegeneigdheid niet minder toe aan de te beoordelen persoon dan gevorderde classici of gevorderde studenten uit de wis- en natuurkunde faculteit.

c. Noch de studie in de psychologie, noch de studie der oude letteren en die der wis- en natuurkunde hebben de neiging om bij het beoordelen van een ander de eigen reactiegeneigdheid toe te schrijven aan de ander, verminderd.

Vraagstelling 4

a. In dit experiment voorspelden de eerste jaars psychologiestudenten de gedragingen van een te beoordelen persoon niet met een geringere subjectieve zekerheid dan de eerste jaars classici of de eerste jaars studenten uit de wis- en natuurkunde faculteit.

b. De gevorderde psychologiestudenten voorspelden de gedragingen van een te beoordelen persoon niet met een geringere subjectieve zekerheid dan de gevorderde classici of de gevorderde studenten uit de wis- en natuurkunde faculteit.

c. De gevorderde psychologiestudenten voorspelden de gedragingen van een te beoordelen persoon met een geringere subjectieve zekerheid dan de eerste jaars psychologiestudenten.

d. De gevorderde studenten uit de wis- en natuurkundefaculteit voorspelden de gedragingen van een te beoordelen persoon niet met een geringere subjectieve zekerheid dan de eerste jaars studenten uit de wis- en natuurkunde faculteit.

e. Er waren gronden aanwezig voor het vermoeden, dat de gevorderde classici de gedragingen van een te beoordelen persoon waarschijnlijk met een geringere subjectieve zekerheid voorspelden dan de eerste jaars classici.

Vraagstelling 5

In dit experiment werd geen significant verband gevonden tussen de subjectieve zekerheid waarmee de ander werd beoordeeld en de juistheid van die beoordeling. Dit verband was bij gevorderde psychologiestudenten niet duidelijker aanwezig dan bij eerste jaars psychologiestudenten en bij de proefpersonen uit de controlegroepen.

Vraagstelling 6

a. In dit experiment wijzigden de gevorderde psychologiestudenten hun gedragsvoorspellingen na toevoeging van de nieuwe informatie minder dan de overige groepen van proefpersonen.

b. De zekerheid waarmee deze voorspellingen werden gegeven, verminderde bij de gevorderde psychologiestudenten niet meer dan bij de gevorderde classici en de gevorderde studenten uit de wis- en natuurkunde faculteit.

c. De zekerheid van de gedragsvoorspellingen nam wel af onder invloed van de studie in de psychologie, maar deze tendens werd ook gevonden voor de studie der oude talen.

d. Voor de onder 6 genoemde bevindingen bleken twee interpretaties mogelijk. Een uitspraak ten gunste van één van deze beide interpretaties kon niet worden gedaan, omdat er geen zekerheid bestond over het al dan niet relevant zijn van de toegevoegde informatie.

In Hoofdstuk III, § 7 werd gewezen op mogelijk voorbarige conclusies uit dit onderzoek. In die paragraaf werden de bevindingen kort samengevat en besproken. Een uitbreiding van dit onderzoek tot praktizerende psychologen, waarvan velen in hun praktijk de praktische mensenkennis als een onmisbaar instrument hanteren, werd wenselijk geacht.

APPENDICES

PERFORMANCE OF THE TWO TASKS BY THE PERSON TO BE JUDGED

A few days before the first session of the pilot experiment the person to be judged received the two instructions (see Chapter II, § 8) He made some notes at home, with the help of which at the pilot session he formulated his opinion on the two problems in the presence of the subjects (who were informed that he had had time to prepare his answers) In the course of that session (cf Chapter II, § 9) his formulation was recorded on tape and afterwards put on paper During the subsequent sessions he used this text *

At the actual session the experimenter began by explaining the nature of the experiment to the subjects, he then gave the person to be judged his first instruction, reading it out aloud for all subjects to hear (for the text of this instruction see Chapter II, § 8) The person to be judged then formulated the following opinion and behaved in the way as indicated

1st task. Whom do you choose as your assistant, Smith or Brown, and why?

The person to be judged rose, went to the blackboard and wrote down the main traits of Smith and Brown, saying

> We have been told that Smith is very industrious as well as capable He easily conforms to orders, so he is tractable, and his attention is focussed on his work alone Brown is a first-rate expert. He is full of fun and, in my opinion, his sense of humour is sometimes a little too abundant. Besides, he has a number of duties in several clubs in town, which activities do not seldom keep him occupied during working hours

The person to be judged sat down and continued

> Now when I consider these two people, having to choose between them, there is in the first place the actual situation to be taken into account I am pressed with work, I cannot cope with it single-handed any longer So, from a strictly practical point of view, the thing that interests me first is to find an assistant who is capable of taking over a certain amount of my work and whose help will mean a real relief of my burden
>
> Now there are traits in Smith I should like to see in Brown and *vice versa* I have to decide between the two of them, neither of whom is, of course, perfect
>
> Smith has little sense of humour and his work is likely to lack colour. In my opinion, a little more of it would do him no harm Brown however, is suffering from an overdose of humour which I think *may* be harmful indeed
>
> Then, still considering the matter from a business point of view, I require an assistant who will be capable of devoting himself wholly to his work This puts Brown to another disadvantage, prone as he is to occupy himself during working hours with other things, I mean those town club duties which will take up a good deal of his time So if I have to decide between these two I should say, give me Smith. He is industrious and capable, so he is likely to be an enormous help Seeing that there is a large amount of work to be done, I need a man whom I can trust to take a lot of it on his shoulders I daresay Smith looks that man. Besides, he is fairly tractable, so he will easily accept my orders. He is likely to take an occasional critical remark without giving me too much trouble, a thing that saves time

* This procedure accounts for the sentence structure not always being faultless the sentences having been formed on the spot during the pilot investigation with the help of the notes previously made

Brown, on the other hand, would no doubt bicker with me rather often ; explaining things to him would cost me a lot of time and trouble. I would always have to be very explicit to prevent disputes arising, a prospect not at all pleasant. So it is not just choosing the easy way when I vote for Smith, for I repeat that there are traits in Brown I should like to see in Smith and *vice versa*. But seeing that from a business point of view — which seems a reasonable one, considering that we are talking here about work with a particular firm — it would seem better, in my opinion, to engage Smith, I would prefer Smith.

Then the experimenter gave him the second instruction, reading it aloud as before (for the text see Chapter II, § 8). The person to be judged performed his task as follows:

2nd task : The place of labour in life

This, too, is, of course, a great problem about which much could be said and, perhaps, written. So I have again made a few brief notes. First I want to say that a man should not sit back and wait till good fortune comes to him. For then he would behave more or less like someone who clutches at a lottery ticket, hoping to win the first prize whereas his actual chances of winning are far less than one per cent. So his waiting is mostly a sheer waste of time. The source of real happiness is in life itself. And I think we may say there is nobody who does not seek happiness in one way or other. So man will have to go out into that world into which he has been thrown and find the beautiful things, which are often hidden. He must look, listen, feel, taste, eat, experience; briefly, he must *live*. Now when we exclude the hours of sleep, man spends the greater part of this life working. So labour may be considered as the main component of life and man's happiness will, consequently, be determined for a great deal by the kind of work he is engaged in. Now labour is a word with a wide scope and it would take us too far to deal with all that is understood by it ; besides, I would make a poor job of it. So keeping it a bit vague and general — a thing you must forgive me — I would say labour is creative occupation. It is a great pity, though, that this creativity is often far to seek; cannot indeed, in many cases be discerned by the worker any longer. The world will never be finished ; look at the enormous development manifesting itself through the ages, at the innumerable plans and projects daily being made all over the world. God gave to man the tools to co-operate with Him in His great creation, which is still taking place every day.

However, it would be difficult to tell many of today's workers that they are doing so by means of their labour. I am afraid they would laugh in our faces and might think they had to do with some madman. All the same, although we may safely assume, I believe, that though there are people whose work is a sore trial to them — I think of soldiers and assembly line workers — there are also many who, for whatever reason, still derive pleasure from their work and who somehow succeed in finding the happiness that is hidden in it. Labour may be necessary, but it can be a sweet necessity, too, for the sake of life itself in which we ourselves are absorbed, in which the worker is absorbed. If his work does not provide the worker with sufficient joy and happiness, we ought to try and find them there, if need be by putting them into the work; it does not really matter very much where we get them from. Anyhow, in that case they would have to come from elsewhere in our life and our quest for them is an essential part of our work.

Thus our work has to have significance for us. If our work is meaningless

it cannot take an important place in life. How it comes to get that significance is of secondary interest. I think of this instance if the worker's task itself does not give him enough satisfaction, it still may give him pleasure, viz. for this reason that he has to support his family; he can again buy something for his children, do a little bit extra for his wife. In this way a worker can give significance to his work — even if it is assembly-line work or some other monotonous job. If it has no meaning in itself we shall have to try and give it that significance, for we have been given the tools for happiness and joy by our Creator. I should like to wind up by saying that now it is up to us to set to work with those tools, each in our own way, and to show our Creator what we are worth.

Appendix 1b
(Dutch text of Appendix 1a)

DE WIJZE WAAROP DE TE BEOORDELEN PERSOON DE TWEE OPDRACHTEN UITVOERT

De te beoordelen persoon ontving de twee opdrachten (zie Hoofdstuk II, § 8) enkele dagen vóór de eerste zitting van het voor-experiment Thuis maakte hij enkele notities en aan de hand van deze notities formuleerde hij in het bijzijn van de proefpersonen zijn mening over de gestelde problemen (de proefpersonen wisten, dat hij deze antwoorden had kunnen voorbereiden) Zijn formuleringen werden in het vooronderzoek (zie Hoofdstuk II, § 9) opgenomen op een band en na dit vooronderzoek op papier gezet. Bij de volgende zittingen maakte de te beoordelen persoon gebruik van deze tekst. *

Nadat de proefleider had uiteengezet hoe het experiment zou verlopen, gaf hij de te beoordelen persoon de eerste opdracht De proefleider las de opdracht volledig en hardop voor, zodat alle proefpersonen het konden horen (voor de tekst zie Hoofdstuk II, § 8). De te beoordelen persoon formuleerde daarna zijn mening als volgt en gedroeg zich daarbij op de volgende wijze

1e opdracht: wie kiest U als assistent, Jansen of Pietersen, en waarom?

De te beoordelen persoon stond op, ging naar het bord en schreef daarop de voornaamste eigenschappen van Jansen en Pietersen Hij zei daarbij het volgende

> Jansen is dus zeer ijverig, hij verstaat zijn vak goed Hij accepteert gemakkelijk leiding, is dus volgzaam en houdt zich alleen bezig met dingen die terzake doen. Pietersen is als vakman uitstekend Hij zit altijd vol grapjes en soms beschikt hij, naar mijn mening, wel over tè veel humor. Bovendien vervult hij buiten het bedrijf nog een aantal functies in verenigingen en het is geen uitzondering, dat hij onder werktijd ook nog met deze dingen bezig is.

De te beoordelen persoon ging zitten en vervolgde zijn verhaal aldus

> Als ik dus die twee mensen bekijk en ik moet hieruit een keuze gaan maken, dan is op de eerste plaats de situatie waarin het gebeurt belangrijk. Ik heb het erg druk; ik kan het werk niet meer alleen af Waar het mij dus — als ik het in het zuiver zakelijke vlak wil houden — op de eerste plaats om gaat, dat is om een assistent te vinden die een bepaald deel van mijn werk kan overnemen, en dat op zodanige manier doet dat het ook een verlichting voor mij betekent.
>
> Nu zou ik bepaalde trekken van Jansen in Pietersen, en omgekeerd, willen zien Ik moet uit deze twee een keuze maken, maar volmaakt zijn ze natuurlijk geen van beiden.
>
> Jansen mist een beetje humor en zal weinig afwisseling in zijn werk brengen. Een beetje meer hiervan zou mijns inziens geen kwaad kunnen. Pietersen daarentegen heeft weer een beetje te veel aan humor en dat kan mijns inziens wel kwaad.
>
> Verder, dus nogmaals, als ik het in het zakelijke vlak houd, eis ik een assistent die in staat is zich volledig aan dat werk te geven Pietersen heeft nog een nadeel, n.l. dat hij de neiging heeft om tijdens het werk met andere dingen bezig te zijn, met name die functies in verenigingen buiten het bedrijf, waar hij nogal mee geoccupeerd is. Als ik dus tussen deze twee mijn keuze moet bepalen, dan zou ik zeggen, ik neem het ene uiterste en dat is Jansen Hij is ijverig en verstaat zijn vak goed Ik kan dus ontzettend veel plezier van die man hebben.

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* De vaak minder fraaie zinsbouw wordt hierdoor verklaard Deze zinnen werden tijdens het vooronderzoek al sprekende geformuleerd aan de hand van de gemaakte notities

En vooral in verband met de grote hoeveelheid werk die ik te verrichten heb, moet ik een behoorlijke hoeveelheid kunnen afladen op de schouders van hem. Dit lijkt mij bij Jansen zeker mogelijk. Bovendien is hij nogal volgzaam, hij zal dus gemakkelijk mijn leiding aanvaarden. Ik zal hem bij tijd en wijle gemakkelijk een aanmerking kunnen maken, die dan niet teveel tijd en moeilijkheden voor mij oplevert.

Als ik dat daarentegen bij Pietersen zou doen, dan heb ik de indruk dat ik met Pietersen nogal eens een keer van mening zal verschillen, dus meer tijd en moeilijkheden te overwinnen zal hebben, voordat ik hem iets duidelijk heb gemaakt — met het oog op een bepaald verschil van mening dat we zouden kunnen hebben — en dat lijkt mij dus geenszins aangenaam. Het is dus niet om de weg van de minste weerstand te kiezen dat ik de voorkeur geef aan Jansen. Want ik zeg nogmaals dat ik bepaalde trekken van Pietersen beslist wel in Jansen zou willen zien, en omgekeerd. Maar aangezien het dus zakelijk gezien — en het gaat hier over het werk in een bedrijf — beter is naar mijn opvatting om Jansen te nemen, zou ik aan Jansen de voorkeur willen geven.

Vervolgens gaf de proefleider hem de tweede opdracht .De proefleider las ook deze opdracht weer hardop voor (voor de tekst zie Hoofdstuk II, § 8). De te beoordelen persoon voerde deze opdracht als volgt uit:

2e opdracht: De plaats van de arbeid in het leven

Ook dat is natuurlijk een groot probleem waarover heel veel te zeggen — misschien ook wel te schrijven — zou zijn. Ik heb dus in het kort weer enkele punten bij elkaar gezet. Op de eerste plaats zou ik willen zeggen, dat een mens nooit moet gaan zitten wachten tot het geluk hem op de een of andere manier in de schoot geworpen wordt. Want dan gedraagt hij zich min of meer als iemand die zich vastklampt aan een lotje van een of andere loterij, waarbij hij meent de hoofdprijs te zullen winnen, ofschoon in werkelijkheid de kans hierop ver beneden de 1 % ligt. Meestal is hij dan ook bezig zijn tijd te verknoeien als hij het zo doet. De bron van alle geluk ligt in het volle leven zelf. En ik mag toch wel zeggen dat ieder mens min of meer naar geluk zoekt; ieder op zijn eigen manier. Hij zal dus uit moeten gaan over de wereld waarin hij geworpen is om de mooie, vaak verborgen, dingen te vinden. Hij moet zien, luisteren, voelen, proeven, eten, ondervinden; kortom, hij moet leven. En van dit leven brengt de mens toch wel een heel groot gedeelte arbeidend door, als we het slapen tenminste buiten beschouwing mogen laten. Arbeid mogen we dus wel zien als het grootste gedeelte van het leven, en het geluk van de mens wordt dus ook voor een groot gedeelte mede bepaald door het werk dat hij verricht. Nu is arbeid een veel omvattend begrip. Men kan hieronder van alles verstaan, en het zou te ver voeren dit allemaal te beschrijven; het zou me bovendien niet lukken. Om het dus enigszins vaag en algemeen te houden — en dat moet U mij maar niet kwalijk nemen — zou ik willen zeggen, dat arbeid creatief bezig zijn is. Al is het ontzettend jammer dat die creativiteit vaak heel ver gezocht moet worden. ja zelfs dikwijls niet meer door de arbeidende mens te onderkennen is. De wereld is nooit af, getuige de geweldige ontwikkeling die zich door alle eeuwen heen gemanifesteerd heeft en het onnoemelijk groot aantal plannen en projecten dat de mens dagelijks ontwerpt over de gehele wereld. God gaf de mens de mogelijkheden om aan Zijn, zich dagelijks voltrekkende, schepping mee te werken. We kunnen echter tegen heel veel arbeiders van deze tijd niet meer zeggen dat ze met hun werk *dit* aan het verwezenlijken zijn. Ik denk dat ze ons dan eens hartelijk zouden uitlachen en misschien ook wel gaan denken dat ze met een of

andere gek te doen hebben. Maar we kunnen toch wel stellen, geloof ik, dat, ook al zijn er dus mensen voor wie arbeid een kwelling is — ik denk hierbij aan militairen en lopende-band-arbeiders — er toch velen zijn die, om welke reden dan ook, nog vreugde beleven in hun werk en er het geluk uit weten te halen dat er in verborgen ligt.

Is arbeid nood, dan kan het toch een zoete nood zijn om derwille van het leven waarin we zelf opgaan, dus het leven waarin de arbeider opgaat. Biedt dat werk niet voldoende vreugde en geluk aan de arbeider, dan moeten we toch pogen om in dat werk die eigenschappen te ontdekken; desnoods door ze er zelf in te leggen; het doet er dan eigenlijk niet toe waar we ze vandaan halen. In ieder geval komen ze dan van elders in ons leven en het zoeken hiernaar behoort wezenlijk tot de arbeid zelf die we verrichten.

Ons werk moet dus zinvol zijn. Als ons werk niet zinvol is, heeft het ook geen betekenisvolle plaats in het leven. En de wijze waarop die arbeid zinvol is, is van minder belang. Kijk, ik denk bijvoorbeeld : biedt het werk zelf geen vreugde genoeg, dan kan het nog vreugde betekenen voor de arbeider die er voor staat, n.l. om deze reden dat hij zijn gezin moet onderhouden ; hij kan voor zijn kinderen weer iets kopen en voor zijn vrouw weer eens wat doen. Op die manier kan een arbeider de arbeid die hij verricht — al is het ook een lopende-band-arbeid of saai gedoe — een zekere zin geven. Wij hebben het gereedschap voor geluk en vreugde toch van onze Schepper ontvangen ! Ik zou willen besluiten dat toch aan ons nu de taak is om op onze geheel eigen wijze aan de slag te gaan met dat gereedschap dat we van de Schepper hebben gekregen en te tonen wat we waard zijn.

Appendix 2a

TABLE OF PREDICTIONS

Junior psychology students

No. of behaviour situation	No. of subject															Number of correct predictions for each behaviour situation
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	+	+	−	+	−	−	+	−	−	−	+	−	+	+	+	8
2	−	+	+	−	+	−	−	−	−	−	−	−	+	+	+	6
3	+	−	+	−	−	+	+	+	+	+	−	+	−	−	+	9
4	+	+	−	+	+	−	+	−	+	−	−	+	−	+	−	8
5	−	+	+	+	+	+	+	−	+	−	−	+	+	+	+	11
6	−	+	−	+	+	−	+	−	−	+	−	+	−	+	+	8
7	+	+	+	+	+	−	+	−	+	+	−	−	+	+	+	11
8	+	−	+	−	−	−	−	+	−	+	−	+	−	+	−	6
9	−	+	+	+	−	+	+	+	+	+	+	+	−	+	−	11
10	+	+	−	+	+	−	+	−	−	+	−	+	+	−	+	9
11	+	+	+	+	−	−	−	−	+	−	−	+	−	−	+	7
12	+	+	−	−	+	+	−	+	+	−	+	+	+	−	+	10
13	−	+	+	−	+	+	+	−	−	−	+	+	−	+	+	9
14	+	+	+	−	−	−	−	+	+	+	−	−	+	−	+	8
15	+	+	−	+	−	−	+	−	−	+	−	+	−	+	+	8
16	+	+	−	+	+	+	+	−	+	+	−	+	+	−	+	11
17	−	+	−	+	+	+	+	+	+	+	+	−	+	+	+	12
18	−	+	−	−	+	−	+	+	+	+	−	+	+	+	+	10
19	−	+	+	+	+	−	−	−	+	+	+	+	−	−	+	9
20	+	+	−	−	+	−	+	−	−	−	−	−	+	+	+	7
21	−	+	+	+	+	+	−	−	+	+	+	−	+	−	+	10
22	+	−	−	+	+	+	+	−	−	−	+	+	+	+	+	10
23	+	−	+	−	−	−	−	−	+	+	−	−	−	+	−	5
24	+	+	+	−	+	+	+	−	+	+	−	+	+	+	+	12
25	+	−	+	−	−	+	+	−	−	−	−	−	−	+	+	6
Number of correct predictions for each subject	16	20	14	14	16	11	17	7	15	15	8	16	14	17	21	221

+ = correct prediction
− = false prediction

Appendix 2b

TABLE OF PREDICTIONS

Senior psychology students

No. of behaviour situation	No. of subject																Number of correct predictions for each behaviour situation
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
1	—	—	+	—	+	—	+	+	—	+	—	+	—	—	—	—	6
2	—	+	—	+	+	—	+	—	—	+	+	+	+	+	+	—	10
3	+	+	+	—	—	—	—	—	+	+	+	+	—	+	—	—	8
4	+	—	+	+	+	—	+	—	+	+	—	+	—	+	—	—	9
5	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	16
6	—	+	+	+	+	+	+	+	—	+	+	+	+	+	+	—	13
7	+	+	+	—	+	+	—	—	+	—	—	+	—	+	—	—	8
8	+	+	+	+	—	—	—	—	+	+	—	+	+	—	—	—	8
9	+	+	—	—	+	+	+	+	—	—	+	—	+	+	+	—	10
10	+	+	—	+	+	+	+	+	+	—	+	—	+	+	—	—	11
11	—	—	—	—	—	—	+	—	+	+	—	+	—	—	—	+	5
12	+	+	+	—	+	—	—	—	+	—	+	+	+	—	—	+	9
13	+	+	+	+	+	+	—	—	—	—	+	+	+	+	+	+	12
14	—	+	—	+	+	+	+	+	+	—	—	—	+	+	—	—	9
15	—	+	+	—	+	+	+	—	+	—	+	+	—	+	—	—	9
16	—	—	—	+	+	+	+	+	—	—	+	—	+	—	+	+	9
17	—	+	+	—	+	+	—	+	—	+	+	+	+	+	+	+	12
18	+	+	+	+	+	+	+	+	+	—	+	+	+	+	—	+	14
19	+	—	+	+	+	—	—	+	+	+	—	+	—	+	+	+	11
20	—	+	+	—	+	—	—	+	+	+	+	+	—	+	+	—	10
21	+	+	—	—	+	+	+	+	+	—	+	—	+	+	+	+	12
22	+	+	+	+	+	—	+	—	+	+	+	+	+	—	—	—	11
23	—	—	+	+	+	—	—	—	+	+	—	+	+	—	—	—	7
24	+	+	+	+	+	—	—	+	+	+	—	+	+	+	+	—	12
25	+	—	—	+	—	—	+	+	+	+	—	+	+	—	+	+	10
Number of correct predictions for each subject	15	18	17	15	21	12	15	14	18	15	15	20	17	17	12	10	251

\+ = correct prediction
— = false prediction

Appendix 2c

TABLE OF PREDICTIONS

Junior classical students

No. of behaviour situation	No. of subject														Number of correct predictions for each behaviour situation
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
1	+	+	—	—	—	—	—	—	—	+	—	—	—	—	3
2	+	—	—	+	+	—	—	+	—	+	—	+	+	—	7
3	+	—	—	+	+	+	+	—	—	—	—	+	—	—	6
4	+	+	—	—	+	—	—	—	—	+	—	—	+	—	5
5	+	+	—	—	+	—	+	+	+	+	+	+	—	—	9
6	+	+	+	—	+	—	—	+	+	+	—	—	+	+	9
7	+	+	+	—	+	—	—	+	+	+	+	—	—	—	8
8	—	+	+	+	+	+	+	—	—	—	—	—	—	—	6
9	+	—	+	+	+	+	+	+	+	—	+	—	+	+	11
10	+	—	—	—	—	—	+	+	—	+	—	—	+	—	5
11	+	+	+	—	+	—	—	—	+	+	—	—	—	+	7
12	+	+	+	+	+	—	+	—	+	+	—	—	+	+	10
13	+	+	+	+	+	—	+	—	—	+	+	+	+	+	11
14	+	+	+	—	+	—	—	+	+	—	—	+	+	—	8
15	+	—	—	—	+	—	—	—	—	+	—	+	—	—	4
16	+	—	—	+	+	—	+	—	+	+	—	+	+	—	8
17	+	—	+	—	+	+	+	+	+	+	—	—	—	+	9
18	+	—	—	+	+	+	+	+	—	—	+	+	+	+	10
19	—	—	—	—	+	—	—	+	+	+	—	+	—	+	6
20	+	—	—	—	+	+	—	—	—	—	—	+	—	—	4
21	—	—	—	+	+	—	—	+	+	+	+	+	+	+	9
22	+	+	—	—	+	+	+	—	+	+	+	—	+	+	10
23	+	+	—	+	+	—	—	—	—	—	—	—	—	+	5
24	+	+	+	—	—	—	+	—	+	+	+	+	+	+	10
25	+	+	—	+	+	—	—	—	—	—	+	+	—	—	6
Number of correct predictions for each subject	22	14	10	11	22	7	12	11	13	17	9	13	13	12	186

+ = correct prediction
— = false prediction

Appendix 2d

TABLE OF PREDICTIONS

Senior classical students

No. of behaviour situation	No. of subject													Number of correct predictions for each behaviour situation
	1	2	3	4	5	6	7	8	9	10	11	12	13	
1	—	—	—	—	—	—	—	+	+	+	—	+	+	5
2	+	+	+	+	—	—	+	—	+	+	—	+	+	9
3	+	—	—	+	+	+	—	+	—	+	+	+	+	9
4	—	+	+	+	—	+	—	+	—	—	—	+	+	7
5	—	—	+	+	+	+	+	—	—	+	+	—	—	7
6	+	+	+	+	+	+	+	—	+	+	+	—	+	11
7	+	—	+	+	—	+	+	+	—	+	+	—	—	8
8	+	—	—	+	—	—	—	+	+	+	+	—	+	7
9	+	+	+	+	+	—	+	+	—	+	+	—	+	10
10	—	—	+	—	+	—	+	+	+	—	+	+	+	8
11	—	—	+	—	—	+	—	+	—	—	+	—	+	5
12	+	+	—	—	—	+	+	—	+	—	+	+	+	8
13	+	+	—	+	+	+	—	—	+	+	+	+	—	9
14	—	—	+	—	—	+	—	—	+	—	—	+	—	4
15	+	—	+	—	—	+	+	+	+	+	+	+	—	9
16	—	+	+	+	+	+	+	—	+	+	+	+	—	10
17	—	+	+	+	+	+	+	—	+	+	+	+	+	11
18	+	—	+	—	—	+	—	—	+	—	—	—	+	5
19	+	—	—	+	—	—	—	—	+	—	+	+	+	6
20	+	—	+	+	—	+	+	+	+	—	+	—	+	9
21	+	+	+	—	+	+	—	—	+	—	+	—	+	8
22	+	+	—	—	—	+	+	—	+	—	—	+	+	7
23	—	+	+	+	—	—	+	—	+	—	—	—	—	5
24	—	+	+	+	—	+	+	+	—	+	+	—	+	9
25	+	—	—	—	—	—	+	+	—	—	—	—	+	4
Number of correct predictions for each subject	15	12	17	15	9	17	15	12	17	13	17	13	18	190

\+ = correct prediction
— = false prediction

Appendix 2e

TABLE OF PREDICTIONS

Junior science students

No. of behaviour situation	No. of subject																	Number of correct predictions for each behaviour situation
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
1	+	−	+	−	+	+	−	−	−	−	−	+	+	+	+	−	+	9
2	+	−	+	−	+	−	−	−	−	−	−	+	−	+	+	−	−	6
3	+	+	+	+	−	−	+	−	−	−	+	+	+	+	−	−	−	9
4	+	−	+	+	+	−	+	−	−	+	−	−	+	−	+	−	−	8
5	+	+	−	+	+	−	−	−	−	+	+	+	−	−	+	−	+	9
6	−	+	+	+	+	−	−	−	−	+	+	+	+	−	+	+	+	11
7	+	+	+	−	+	−	+	−	+	−	−	+	+	−	−	+	−	9
8	+	−	+	+	−	−	+	−	−	+	−	−	−	−	−	−	+	6
9	+	+	+	+	+	+	−	+	+	+	+	+	+	−	−	+	+	14
10	+	+	+	+	−	−	−	−	+	+	−	+	−	+	+	+	+	11
11	−	+	+	+	−	−	+	+	+	−	+	+	+	−	+	+	+	12
12	−	−	+	+	+	+	+	+	+	+	+	−	+	+	−	+	+	13
13	−	+	+	−	+	+	+	+	+	+	+	+	+	+	−	−	+	13
14	+	−	−	+	+	+	+	−	−	+	−	−	+	−	−	+	+	9
15	+	−	+	+	+	−	−	+	+	−	−	+	+	+	+	+	+	12
16	−	+	+	+	+	+	+	+	+	+	+	+	+	+	−	+	+	15
17	+	−	+	+	+	+	+	+	+	+	+	+	−	+	+	−	+	14
18	+	−	−	−	−	−	+	−	−	+	−	−	−	−	+	+	−	5
19	−	+	+	−	+	−	+	−	+	−	+	−	+	+	+	+	+	11
20	+	−	+	+	+	−	−	−	−	+	+	+	−	−	−	−	−	7
21	−	+	−	−	+	−	+	−	+	+	+	+	+	+	+	−	−	10
22	−	−	+	+	+	−	+	−	+	+	+	−	−	+	+	+	+	11
23	+	+	−	+	−	+	−	+	−	+	−	−	−	+	+	+	−	9
24	+	+	−	+	+	+	+	+	−	−	+	−	+	+	−	+	−	11
25	+	−	−	+	+	−	+	−	−	−	−	−	−	+	−	+	−	6
Number of correct predictions for each subject	17	13	18	18	19	9	16	9	12	16	14	15	15	15	14	15	15	250

+ = correct prediction
− = false prediction

Appendix 2f

TABLE OF PREDICTIONS

Senior science students

No. of behaviour situation	No. of subject													Number of correct predictions for each behaviour situation
	1	2	3	4	5	6	7	8	9	10	11	12	13	
1	+	−	+	−	+	+	−	+	+	−	+	−	−	7
2	+	−	−	+	+	+	+	+	+	+	−	+	−	9
3	+	−	+	−	+	−	+	−	−	−	+	−	−	5
4	−	+	+	−	+	−	+	+	+	−	+	+	+	9
5	+	−	+	+	+	+	−	+	+	+	+	+	+	11
6	+	+	−	+	+	+	+	+	+	+	+	+	+	12
7	−	−	+	+	+	+	+	+	−	+	+	+	−	9
8	−	−	−	−	−	−	−	−	+	+	+	−	−	3
9	−	+	−	−	+	−	−	−	−	−	+	+	+	5
10	+	+	+	+	+	+	+	+	+	+	+	+	−	12
11	−	+	−	+	−	+	−	−	−	+	+	+	+	7
12	−	−	−	+	−	+	+	−	+	+	−	+	+	7
13	+	+	+	+	−	−	−	+	−	+	+	−	+	8
14	+	+	−	−	+	+	−	−	−	+	+	−	−	6
15	+	−	+	−	+	+	+	+	+	+	+	+	−	10
16	+	−	+	+	−	−	+	+	+	+	+	+	+	10
17	−	−	+	−	+	−	+	+	−	−	+	+	+	7
18	+	+	−	−	+	+	+	+	−	−	+	+	−	8
19	+	−	+	−	+	+	−	+	−	+	−	−	+	7
20	−	−	+	−	+	+	+	−	−	+	+	−	+	7
21	−	+	+	−	+	+	−	+	+	+	+	+	+	10
22	−	−	−	+	−	+	+	+	+	+	+	+	+	9
23	−	−	−	+	+	+	−	+	+	−	+	−	+	7
24	+	−	+	−	−	−	−	+	+	+	+	−	−	6
25	−	−	+	−	+	−	+	−	+	+	+	+	−	7
Number of correct predictions for each subject	13	9	15	11	18	16	14	17	15	18	22	16	14	198

+ = correct prediction
− = false prediction

Appendix 3a

FACTOR-ANALYTICAL DATA

Junior psychology students

Correlation matrix and matrix of the residuals after extraction of 10 factors

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1		343	146	315	382	345	164	141	105	250	407	301	134	229	262
2	000		586	363	637	403	266	384	444	329	550	213	569	481	537
3	—025	029		123	556	400	190	322	523	352	426	067	435	275	389
4	014	—014	—034		579	523	525	372	250	352	460	486	505	562	442
5	028	—005	014	007		486	403	262	345	381	669	311	519	525	609
6	—011	—012	002	—002	—021		222	634	583	458	671	086	621	512	190
7	—010	001	—004	001	001	—004		163	102	366	282	435	294	371	447
8	—016	—002	—005	—008	—020	023	004		699	243	449	—079	678	308	062
9	—011	—002	—001	019	—013	—022	—020	—005		339	525	—116	641	317	100
10	019	—019	—010	002	—015	000	008	—021	006		405	066	387	456	275
11	005	003	000	—020	009	002	—009	—019	009	—007		236	625	530	363
12	024	—030	020	008	—015	—020	027	—012	—012	—027	—001		120	329	449
13	—030	014	—004	005	—008	—010	—015	003	—008	—024	016	011		447	178
14	—039	012	—025	—001	—002	017	—011	016	—008	019	—007	—004	—022		405
15	—010	004	—016	005	—008	013	015	002	—028	015	—003	014	—022	—006	

	Unrotated factor matrix											*Rotated factor matrix*				
	F_1	F_2	F_3	F_4	F_5	F_6	F_7	F_8	F_9	F_{10}	h^2	I	II	III	IV	V
1	433	—160	—191	—261	258	207	081	—176	118	047	482	464	—149	018	287	226
2	728	087	—377	124	—090	—131	046	—185	146	134	768	728	064	—333	—135	118
3	586	266	—340	097	—326	155	055	105	—147	070	709	560	200	—524	—136	—036
4	719	—351	339	088	224	—140	141	070	—079	056	866	739	—058	486	—065	—084
5	804	—146	—284	—066	—058	—207	109	064	—195	—118	866	834	—111	—215	056	034
6	740	271	206	—292	145	091	084	106	—039	041	799	674	451	111	304	030
7	514	—395	180	213	—095	122	—148	—037	—083	—158	578	555	—196	256	—218	—205
8	579	525	300	159	163	058	174	—091	089	—119	817	470	690	123	—144	082
9	599	593	092	072	—087	090	045	090	064	—082	762	494	671	—180	—083	015
10	565	—035	183	—222	—327	151	—110	—143	—074	059	575	550	137	—021	186	—364
11	780	123	—090	—258	123	—070	—086	068	066	—159	760	756	205	—052	273	163
12	378	—537	—097	183	274	056	—198	150	098	107	635	461	—459	292	—144	207
13	756	393	172	137	096	—209	—231	—136	—175	028	931	673	550	085	—118	139
14	682	—150	130	—106	—093	—147	—096	095	165	102	602	686	032	107	097	—165
15	574	—390	—314	200	—171	—036	100	055	073	—052	671	647	—381	—196	—221	—069
	Average contribution to variance in %										72.1	39.7	13.1	6.3	3.3	2.5

Appendix 3b

FACTOR-ANALYTICAL DATA

Senior psychology students

Correlation matrix and matrix of the residuals after extraction of 10 factors

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1		111	604	488	414	491	544	789	743	654	008	541	398	625	719	509
2	—001		178	394	586	444	299	118	130	347	671	160	123	382	231	414
3	—008	012		396	433	301	347	523	446	646	194	573	385	494	579	396
4	—002	—002	—017		593	516	461	583	515	572	308	447	442	454	648	602
5	—006	003	—001	—018		627	621	542	484	618	487	644	197	720	661	678
6	001	—002	003	—021	020		519	530	472	488	282	269	258	575	560	653
7	022	—016	—032	014	—004	—026		627	433	469	197	426	255	637	600	579
8	—006	004	004	—008	—007	014	008		741	588	000	560	354	616	829	567
9	016	002	006	010	—007	—009	—014	020		606	—051	514	146	630	691	669
10	015	—005	001	012	—009	015	—003	012	—013		273	657	192	678	655	595
11	000	010	—026	—010	—007	004	011	006	—023	017		176	258	139	109	352
12	016	—018	018	043	—005	—004	010	016	—016	015	016		084	600	553	354
13	006	—030	030	031	009	014	026	—006	002	—005	027	—024		113	308	121
14	—010	024	012	—007	—005	—010	015	—015	011	—012	—009	—004	—008		655	606
15	012	010	018	014	018	010	—019	—006	—008	001	—009	—014	—017	—004		669
16	000	—005	011	029	010	002	044	—013	007	011	041	—029	—008	017	—004	

	Unrotated factor matrix											*Rotated factor matrix*			
	F_1	F_2	F_3	F_4	F_5	F_6	F_7	F_8	F_9	F_{10}	h^2	I	II	III	IV
1	773	402	—050	—269	189	—130	—107	048	058	—109	915	783	—382	205	195
2	478	—578	—098	236	176	—092	071	110	087	135	710	412	675	060	037
3	652	253	—357	051	—078	112	—219	061	—055	—070	697	574	—072	177	501
4	736	—166	—079	—231	—076	172	156	—205	110	190	778	724	139	255	—009
5	837	—257	115	301	—234	—099	104	—044	089	—024	957	804	413	—172	120
6	693	—239	251	—086	148	—044	—114	—070	023	039	651	726	197	—029	—203
7	692	—042	224	—039	—123	—184	—110	—075	—111	038	612	720	047	—081	—076
8	804	321	167	—305	—116	—047	096	104	—057	043	910	855	—362	109	—006
9	724	374	218	—042	219	124	181	—070	095	—081	831	761	—318	—158	108
10	800	189	—193	226	114	068	—044	—137	—056	115	819	730	041	—070	479
11	374	—631	—348	222	035	045	084	245	060	—068	787	265	753	250	166
12	664	309	—157	305	—253	—115	159	—106	042	—132	787	598	—052	—132	523
13	374	—093	—280	—456	—146	076	—206	171	268	039	606	357	—017	605	—022
14	792	142	200	238	040	—225	—131	—075	031	086	828	791	013	—275	186
15	844	206	143	—126	—129	116	042	065	—083	080	840	869	—178	001	066
16	780	—152	305	054	191	295	058	—036	—140	—142	895	810	177	—216	—114
	Average contribution to variance in %										78.9	48.5	10.7	4.9	5.9

Appendix 3c

FACTOR-ANALYTICAL DATA

Junior classical students

Correlation matrix and matrix of the residuals after extraction of 10 factors

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1		514	653	505	595	132	660	565	606	662	479	602	681	465
2	001		389	618	391	—012	694	509	491	551	229	458	433	294
3	—016	001		565	498	324	546	495	523	502	630	444	574	523
4	—006	016	—015		494	400	558	447	521	502	495	535	558	373
5	011	001	—001	—007		—104	338	481	468	549	322	530	509	197
6	002	—003	004	035	—029		134	113	—030	—174	487	—046	051	509
7	026	012	—003	001	—001	000		472	579	604	433	513	595	352
8	001	015	000	—016	011	024	—019		389	465	440	458	477	187
9	—014	002	016	—013	—022	008	000	—019		715	308	731	811	248
10	—007	—022	012	—005	—017	—016	—007	—004	—001		220	715	755	271
11	—021	—027	—002	—026	001	—021	001	004	009	009		315	338	516
12	—011	—024	—004	—004	—005	—008	003	001	—004	016	000		689	206
13	002	—019	—019	008	—009	—009	013	003	—002	—002	—009	—009		350
14	—013	024	—004	—015	—001	012	—015	—019	000	014	007	—011	017	

	Unrotated factor matrix											*Rotated factor matrix*				
	F_1	F_2	F_3	F_4	F_5	F_6	F_7	F_8	F_9	F_{10}	h^2	I	II	III	IV	V
1	832	125	128	200	053	064	151	068	069	—161	830	835	152	069	—212	—004
2	677	181	—445	081	189	—246	—105	059	—142	032	828	625	106	—161	—117	550
3	775	—223	178	170	019	065	032	—121	065	065	739	676	453	102	—173	—107
4	788	—172	—268	—182	—221	—200	—099	—161	103	058	895	658	455	—288	226	182
5	622	213	150	200	—261	—219	072	—171	037	—041	649	688	—004	—177	—125	198
6	270	—734	—127	—219	—091	210	158	111	110	—062	781	001	791	—042	226	008
7	764	111	—247	081	299	149	—161	097	120	100	835	704	180	063	—168	437
8	641	100	—139	289	—214	125	102	054	—215	143	665	634	138	—311	—203	010
9	756	317	169	—232	047	095	—218	—126	—112	—103	852	824	—058	170	219	044
10	755	466	126	—101	086	—127	058	039	050	153	867	865	—193	127	070	110
11	623	—473	082	195	—162	158	—114	105	061	027	736	454	645	—079	—149	—192
12	722	341	118	—152	—176	—021	—150	092	—044	—095	748	809	—087	—055	197	—052
13	806	252	211	—231	049	151	034	—151	—090	035	870	855	016	203	216	006
14	548	—471	163	—041	260	—107	180	196	035	—114	714	362	609	332	—033	034
	Average contribution to variance in %										78.6	46.4	14.0	3.3	3.1	4.5

Appendix 3d

FACTOR-ANALYTICAL DATA

Senior classical students

Correlation matrix and matrix of the residuals after extraction of 4 factors

	1	2	3	4	5	6	7	8	9	10	11	12	13
1		307	215	341	389	519	595	248	345	431	366	449	375
2	—027		556	597	431	546	535	—160	552	604	697	660	488
3	—025	—026		556	528	528	560	046	627	616	581	618	345
4	—036	040	007		581	513	523	241	660	699	509	579	558
5	006	010	025	011		509	558	213	537	650	396	544	389
6	- 005	015	040	—006	—002		646	219	517	574	542	646	391
7	009	—014	027	—009	—010	—029		228	579	690	606	667	424
8	019	—025	—007	015	—049	052	016		153	292	—102	051	035
9	031	—058	—020	—016	—031	—022	001	025		697	692	646	391
10	005	062	—035	017	001	—042	003	014	—017		535	711	391
11	021	—046	—017	—022	—040	—008	027	020	079	—028		644	419
12	012	000	—009	010	—002	022	—020	—017	—007	024	—037		412
13	006	023	017	022	037	—020	011	—041	—033	—017	—018	—003	

	Unrotated factor matrix					*Rotated factor matrix*			
	F_1	F_2	F_3	F_4	h^2	I	II	III	IV
1	574	—348	334	—167	590	574	—165	481	041
2	730	420	202	041	751	708	456	—013	205
3	708	207	—160	248	632	717	160	—301	—017
4	789	111	—264	—303	797	732	—129	—173	463
5	698	—131	—170	035	534	700	—182	—103	037
6	749	—124	172	042	608	757	—003	184	—008
7	815	—214	191	121	762	838	—044	212	—109
8	210	—531	—296	—137	432	215	—621	009	—020
9	791	169	—208	074	703	779	055	—271	142
10	851	—095	—224	128	800	860	—153	—193	—003
11	740	371	211	127	746	732	445	—013	109
12	814	090	098	192	717	827	178	—015	—036
13	565	116	089	—333	451	513	043	136	410
	Average contribution to variance in %				65.6	50.2	7.4	4.4	3.6

Appendix 3e

FACTOR-ANALYTICAL DATA

Junior science students

Correlation matrix and matrix of the residuals after extraction of 10 factors

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1		606	326	229	424	669	269	574	465	579	454	387	648	531	590	588	380
2	022		525	297	350	586	250	600	491	549	404	220	697	572	549	657	385
3	—050	—020		458	444	465	201	350	380	569	325	382	583	431	543	642	516
4	003	000	036		252	234	017	232	322	356	060	322	296	220	341	359	352
5	—007	—024	—003	004		375	317	521	414	354	227	289	584	711	553	558	498
6	006	—009	001	—008	—021		000	600	382	699	558	405	588	532	532	682	398
7	040	013	021	—014	—025	007		368	231	028	—023	—019	355	391	232	197	164
8	—017	—028	—005	027	—012	040	026		593	498	407	336	725	634	596	567	389
9	005	006	004	—001	—003	—007	—001	016		470	319	447	549	514	609	460	403
10	—009	—009	017	—002	002	018	—017	—005	006		421	440	542	356	597	727	373
11	018	—007	023	—001	018	005	—030	002	—006	—008		262	391	289	431	451	169
12	021	—028	—003	008	—017	001	—032	000	020	000	—014		454	329	523	519	431
13	—015	023	011	—016	021	—015	—009	011	—016	002	—007	—006		733	699	748	468
14	—010	041	—025	—026	028	006	008	—046	015	—022	—002	007	—001		542	604	347
15	—008	002	001	—007	018	—016	—011	—009	—001	015	009	—003	017	017		697	590
16	—004	004	—014	000	—005	—018	004	—017	—029	033	026	021	001	013	004		595
17	—012	008	046	007	019	023	022	010	018	—019	—038	013	—027	—028	003	012	

	Unrotated factor matrix											*Rotated factor matrix*				
	F_1	F_2	F_3	F_4	F_5	F_6	F_7	F_8	F_9	F_{10}	h^2	I	II	III	IV	V
1	739	102	—258	092	080	—076	—087	—220	075	163	732	774	089	—153	—033	080
2	742	125	—247	—285	083	175	029	—054	092	—151	781	768	027	060	—339	083
3	697	—275	204	—361	—194	255	—141	130	092	113	894	624	063	581	—060	—194
4	413	—207	248	—145	192	148	134	—086	—040	068	386	351	002	404	097	192
5	662	192	287	086	—289	—058	038	—087	—163	018	688	640	—313	119	207	—289
6	746	—184	—402	157	—130	098	120	—111	048	073	838	771	408	—124	030	—130
7	299	490	163	—185	—034	—157	—224	068	—084	065	482	321	—502	—011	—187	—034
8	774	287	—155	054	043	—080	068	108	—143	—149	775	814	—123	—162	—062	043
9	671	092	135	152	322	104	—071	086	—091	—143	656	659	—136	044	213	322
10	728	—322	—227	—036	105	066	—061	—075	—181	094	753	711	392	163	001	105
11	500	—113	—340	236	—087	100	—183	088	152	—150	538	530	321	—207	087	—087
12	551	—292	164	224	178	—112	067	150	093	117	559	499	156	206	388	178
13	863	201	—023	—066	031	—076	060	119	148	100	847	873	—146	045	—061	031
14	752	415	105	119	—208	135	205	078	—056	149	898	776	—376	—115	084	—208
15	819	—074	124	094	102	—117	—134	—030	059	—097	756	787	—003	181	219	102
16	879	—189	—094	—157	—130	—190	154	104	—084	—061	940	854	196	265	—058	—130
17	616	—170	304	—038	—041	—202	074	—190	125	—131	619	551	—050	386	216	—041
	Average contribution to variance in %										71.4	46.8	6.2	5.7	3.1	2.5

Appendix 3f

FACTOR-ANALYTICAL DATA

Senior science students

Correlation matrix and matrix of the residuals after extraction of 10 factors

	1	2	3	4	5	6	7	8	9	10	11	12	13
1		654	549	598	519	199	745	664	530	516	394	475	147
2	010		660	602	588	475	674	755	646	553	498	662	373
3	—019	016		588	724	567	641	694	674	731	534	456	377
4	003	—018	039		486	516	556	639	468	440	546	590	451
5	000	000	—008	007		456	579	681	715	708	389	323	204
6	001	—003	000	—015	018		329	398	465	498	556	451	523
7	024	002	—001	—017	001	—003		731	630	502	396	468	204
8	—014	009	—001	006	003	—005	008		655	634	549	602	343
9	—002	—007	—004	—004	—002	003	—009	001		558	389	394	167
10	014	—022	—001	—021	013	—010	001	008	000		461	417	469
11	008	—014	014	—021	010	005	—007	006	—006	—005		507	477
12	—014	015	003	024	—010	008	—010	010	—003	—001	000		352
13	—019	011	—006	011	—021	002	004	—004	—002	027	012	—016	

	Unrotated factor matrix											*Rotated factor matrix*		
	F_1	F_2	F_3	F_4	F_5	F_6	F_7	F_8	F_9	F_{10}	h^2	I	II	III
1	718	291	—361	—240	—095	—106	085	—164	094	057	855	759	—388	068
2	837	053	—202	201	104	139	102	—092	—038	117	849	853	—093	090
3	839	123	223	—072	—041	032	—050	—046	—079	—064	792	739	090	463
4	760	—229	—213	—069	—210	—088	079	163	076	089	778	806	126	—098
5	757	335	281	097	—086	—180	047	101	—159	047	854	627	—058	606
6	651	—403	330	144	—150	145	044	026	085	—103	780	577	568	201
7	761	305	—240	—071	—123	147	—087	037	043	—079	788	768	—328	182
8	860	171	—152	036	157	—095	—159	132	015	036	871	852	—160	202
9	740	307	128	241	—157	062	—052	—033	025	046	752	652	—123	466
10	766	095	315	—147	181	—084	131	—061	—077	—066	788	648	159	500
11	663	—327	027	—031	026	—044	—171	—037	100	065	595	660	335	010
12	669	—233	—298	168	149	—046	039	—101	059	—126	674	741	074	—191
13	494	—444	161	—186	229	130	117	168	054	045	618	473	494	004
	Average contribution to variance in %										76.9	50.7	8.0	9.4

Appendix 4a

CONCORDANCE TABLE

Junior psychology students

No. of behaviour situation	No. of subject															Number of concordant predictions for each behaviour situation
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	×	—	×	—	×	—	×	—	×	×	—	—	×	×	—	8
2	—	×	×	—	×	—	—	—	×	×	×	×	×	×	×	10
3	—	—	×	×	×	×	×	×	×	×	×	×	×	×	×	13
4	×	×	×	×	×	×	—	—	—	×	—	—	×	×	×	10
5	—	—	×	×	—	×	×	×	×	×	×	×	×	×	—	11
6	—	—	×	—	—	—	—	×	×	—	×	—	×	×	—	6
7	×	—	—	—	×	×	—	×	×	—	×	×	×	×	×	10
8	×	×	×	—	—	—	—	×	×	×	—	×	—	—	—	7
9	—	×	×	×	×	×	×	—	×	×	×	—	×	—	—	10
10	—	—	×	—	—	—	×	—	×	×	×	×	×	—	×	8
11	—	×	×	—	×	×	×	×	×	×	—	×	×	—	—	10
12	×	—	—	×	×	×	—	×	×	—	—	×	×	—	×	9
13	—	×	—	—	×	×	×	—	—	×	—	—	—	—	×	6
14	×	×	×	—	×	—	—	×	×	—	×	—	×	—	×	9
15	×	×	—	×	—	—	×	—	×	—	—	×	—	×	×	8
16	×	×	×	×	×	×	×	×	×	×	×	×	×	×	—	14
17	—	—	×	—	×	—	—	—	×	—	—	×	×	—	×	6
18	—	—	×	—	×	—	—	×	×	×	×	×	×	×	×	10
19	×	—	×	—	—	×	×	×	—	—	×	—	×	×	—	8
20	×	—	×	×	—	×	×	—	—	×	×	×	×	×	×	11
21	—	—	×	—	—	×	×	×	—	—	—	×	×	×	—	7
22	×	×	—	—	×	×	×	—	×	×	—	—	×	×	×	10
23	×	×	×	×	—	×	×	×	×	—	×	—	×	×	×	12
24	×	×	×	×	×	×	—	—	—	×	—	—	×	×	×	10
25	×	×	×	×	—	×	×	—	—	—	×	—	×	—	×	9
Number of concordant predictions for each subject	14	13	20	11	15	16	15	13	18	15	14	14	22	16	16	232

× = concordant prediction
— = discordant prediction

Appendix 4b

CONCORDANCE TABLE

Senior psychology students

No. of behaviour situation	No. of subject																Number of concordant predictions for each behaviour situation
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
1	×	×	—	×	—	—	—	×	×	×	×	—	—	×	×	—	9
2	×	—	×	×	×	×	—	×	×	×	×	—	×	×	×	×	13
3	—	×	—	—	×	×	×	—	×	—	—	—	×	—	—	×	7
4	×	×	×	—	×	—	—	×	—	×	×	×	×	—	×	×	11
5	×	—	×	—	—	×	×	×	×	×	—	—	×	×	×	—	10
6	—	—	×	—	×	—	×	×	×	×	×	×	—	—	×	×	10
7	×	×	×	—	—	×	×	×	—	×	×	×	—	×	×	—	11
8	—	—	×	—	×	×	×	×	—	×	—	—	×	—	×	×	9
9	×	×	—	×	×	—	—	×	×	×	×	×	×	—	—	×	11
10	—	—	—	—	—	×	×	×	—	×	×	—	×	×	×	×	9
11	—	×	×	—	—	—	×	×	×	×	—	×	—	—	—	—	7
12	—	—	—	×	×	×	×	—	×	×	×	×	×	—	—	×	10
13	×	×	×	—	×	—	×	×	×	—	×	×	×	×	—	×	12
14	×	—	×	×	—	—	×	×	×	×	×	—	×	—	×	—	10
15	—	—	—	×	×	×	×	×	×	×	×	×	—	×	×	×	12
16	×	—	—	—	×	—	—	—	×	×	×	—	—	×	×	×	8
17	—	×	×	—	—	—	—	×	—	×	×	×	×	—	×	—	8
18	×	×	×	×	×	—	×	×	×	×	×	×	×	×	—	×	14
19	—	—	—	—	×	×	×	—	×	—	×	×	—	×	—	×	8
20	×	—	—	×	×	×	×	×	—	×	—	—	×	—	×	×	10
21	—	—	—	—	×	—	—	—	—	—	—	—	×	—	—	—	2
22	×	—	×	—	×	—	—	×	—	×	—	×	×	—	×	—	8
23	—	—	×	×	—	×	—	×	—	×	×	×	×	×	—	—	9
24	×	×	×	—	×	—	—	×	—	—	—	×	×	×	×	×	10
25	—	×	×	×	×	—	×	×	×	—	—	—	×	×	×	×	11
Number of concordant predictions for each subject	13	11	15	10	17	11	15	20	15	19	16	14	18	13	16	16	239

× = concordant prediction
— = discordant prediction

Appendix 4c

CONCORDANCE TABLE

Junior classical students

No. of behaviour situation	No. of subject														Number of concordant predictions for each behaviour situation
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
1	—	—	×	—	×	—	×	×	×	—	×	×	×	×	9
2	—	—	×	×	—	—	—	×	×	×	×	×	—	—	7
3	×	×	—	×	×	×	×	—	×	×	×	×	×	×	12
4	—	—	—	×	—	×	×	×	—	×	—	—	×	—	6
5	×	—	×	—	×	×	×	—	×	×	×	×	×	—	10
6	×	—	—	×	×	×	—	×	×	—	×	×	×	×	10
7	×	—	—	×	—	×	×	—	×	—	—	×	×	×	8
8	—	—	—	×	×	×	—	×	—	×	×	×	×	—	8
9	×	—	×	×	×	—	×	×	×	—	×	×	×	×	11
10	—	—	×	—	×	—	—	—	×	×	×	×	—	—	6
11	×	×	×	×	×	×	—	×	—	×	×	×	×	×	12
12	×	—	—	—	×	—	×	×	×	×	×	×	×	×	10
13	×	—	×	×	×	×	×	—	×	×	×	×	×	×	12
14	×	×	×	×	×	—	—	×	—	×	×	×	×	×	11
15	×	—	×	×	—	—	×	×	×	—	×	—	—	×	8
16	×	×	×	—	×	×	×	×	×	×	—	×	×	×	12
17	×	×	×	×	—	×	×	—	—	×	×	×	×	—	10
18	—	×	×	×	×	×	×	—	—	×	—	×	×	×	10
19	—	—	×	×	×	×	×	—	—	×	×	×	—	×	9
20	—	×	—	—	×	×	×	×	×	×	×	×	—	—	9
21	×	×	×	×	—	×	×	—	—	×	—	×	×	×	10
22	—	—	×	×	×	×	—	×	—	—	×	×	×	×	9
23	—	—	×	×	—	—	×	—	—	×	×	—	×	×	7
24	—	×	×	×	—	—	×	—	—	×	—	×	×	×	8
25	×	×	×	×	—	×	×	—	×	×	—	×	×	×	11
Number of concordant predictions for each subject	14	10	18	19	16	16	18	13	14	19	18	22	20	18	235

× = concordant prediction
— = discordant prediction

Appendix 4d

CONCORDANCE TABLE

Senior classical students

No. of behaviour situation	No. of subject													Number of concordant predictions for each behaviour situation
	1	2	3	4	5	6	7	8	9	10	11	12	13	
1	×	×	—	×	—	×	—	×	×	×	×	×	×	10
2	×	×	×	×	×	—	—	×	—	×	×	×	×	10
3	—	×	—	—	×	—	×	—	×	—	×	×	—	6
4	×	×	—	×	—	×	—	×	—	×	×	×	×	9
5	—	×	×	×	×	×	×	×	—	×	—	×	×	10
6	×	—	—	×	×	×	×	—	×	×	×	×	—	9
7	—	×	×	×	×	×	×	×	—	—	—	×	×	9
8	—	—	—	—	—	—	—	—	—	×	—	—	—	1
9	—	×	×	—	×	×	—	—	×	×	×	×	—	8
10	—	—	—	—	—	—	×	×	×	×	×	—	×	6
11	—	—	×	×	×	×	—	×	×	×	—	—	—	7
12	—	—	—	×	×	×	×	—	×	×	—	×	×	8
13	×	×	×	×	×	×	×	—	×	×	—	×	×	11
14	×	×	×	—	×	×	×	×	—	×	—	×	×	10
15	×	—	×	—	×	—	—	×	—	×	×	×	—	7
16	—	×	—	×	—	×	—	—	×	×	×	×	—	7
17	—	—	—	×	×	×	—	—	—	×	—	—	—	4
18	×	—	×	×	×	×	×	—	×	×	×	×	×	11
19	×	×	×	×	×	×	—	—	—	×	—	×	—	8
20	—	×	×	×	×	—	×	×	×	×	×	×	×	11
21	—	—	×	×	×	×	×	—	—	×	—	×	—	7
22	—	—	×	—	×	×	×	—	—	×	×	—	—	6
23	×	—	×	×	×	—	×	×	—	×	—	×	×	9
24	×	×	×	×	×	—	×	×	×	×	—	—	×	10
25	—	—	—	×	—	×	×	×	—	—	×	—	—	5
Number of concordant predictions for each subject	11	13	15	18	19	17	15	13	12	22	13	18	13	199

× = concordant prediction
— = discordant prediction

Appendix 4e

CONCORDANCE TABLE

Junior science students

No. of behaviour situation	No. of subject																	Number of concordant predictions for each behaviour situation
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
1	×	×	—	×	×	×	×	×	×	×	—	×	—	×	×	—	—	12
2	×	×	—	×	×	×	×	×	×	×	×	×	×	—	×	—	×	14
3	×	×	—	×	×	×	×	—	—	×	×	×	×	×	×	—	×	13
4	×	×	—	×	—	—	×	—	×	×	—	—	×	×	—	—	×	9
5	×	×	×	×	×	×	—	×	×	×	—	—	—	—	—	—	×	10
6	—	×	—	×	×	—	—	×	—	×	×	—	×	—	—	—	×	8
7	×	×	—	×	×	×	—	—	×	—	×	×	×	—	—	×	×	11
8	—	×	—	×	×	×	×	—	—	×	—	×	—	×	×	×	×	11
9	—	×	×	—	×	×	—	×	×	×	—	×	×	×	—	×	×	12
10	—	×	×	×	×	×	×	×	—	—	—	—	×	—	—	—	—	8
11	×	×	—	×	×	×	×	×	—	—	×	×	×	×	×	—	—	12
12	—	—	—	×	×	×	×	×	×	×	×	—	—	×	×	×	—	11
13	×	×	×	×	×	×	×	×	×	—	—	×	—	×	×	—	—	12
14	×	×	×	—	×	—	×	—	×	×	—	—	×	×	—	×	×	11
15	×	×	—	×	×	—	—	×	×	—	—	×	—	—	×	×	—	9
16	—	×	×	×	×	×	×	×	×	—	×	×	×	—	×	×	×	14
17	×	×	—	—	—	×	—	—	—	×	—	×	×	—	—	×	×	8
18	×	—	—	—	×	×	×	—	×	—	×	×	×	—	×	—	—	9
19	—	×	—	—	×	×	—	×	—	×	—	×	—	×	—	—	—	7
20	×	×	—	—	×	—	—	—	×	×	×	×	×	×	×	×	—	11
21	—	—	×	×	—	×	—	×	—	—	—	—	—	—	×	×	—	6
22	—	×	—	×	×	×	×	×	—	×	×	×	×	×	—	×	—	12
23	—	×	×	×	×	×	—	×	—	×	—	—	—	×	×	×	×	11
24	×	×	×	×	×	×	×	×	—	×	×	×	×	—	×	×	×	15
25	×	×	×	—	×	—	×	—	—	×	—	×	×	×	—	×	×	11
Number of concordant predictions for each subject	15	22	10	18	22	19	15	16	13	17	11	17	16	14	14	14	14	267

× = concordant prediction
— = discordant prediction

Appendix 4f

CONCORDANCE TABLE

Senior science students

No. of behaviour situation	No. of subject													Number of concordant predictions for each behaviour situation
	1	2	3	4	5	6	7	8	9	10	11	12	13	
1	—	—	×	—	—	—	—	×	×	—	—	×	×	5
2	—	×	—	×	—	—	—	—	—	×	—	×	—	4
3	—	—	—	—	—	—	×	×	×	×	—	×	×	6
4	×	×	—	—	—	×	×	×	×	—	×	—	—	7
5	×	×	—	—	×	×	—	×	×	—	—	—	—	6
6	×	—	×	—	×	×	×	—	—	—	—	—	×	6
7	×	×	×	×	×	—	×	×	×	×	—	×	×	11
8	—	—	×	—	×	—	×	—	×	×	—	—	—	5
9	—	×	×	—	—	×	×	—	×	—	×	—	—	6
10	×	×	—	×	×	×	—	—	×	×	—	—	×	8
11	—	×	—	×	×	×	×	×	×	×	×	×	—	10
12	×	×	—	×	×	—	×	×	×	×	×	—	—	9
13	×	×	—	—	×	—	×	×	×	—	×	×	×	9
14	—	×	—	×	—	—	×	×	—	—	×	×	—	6
15	—	—	—	—	×	—	—	×	—	×	—	—	×	4
16	×	×	×	×	×	×	×	×	×	×	×	×	—	12
17	×	×	—	×	×	×	×	×	×	—	×	—	—	9
18	—	×	—	—	×	×	×	—	×	×	×	×	—	8
19	—	—	×	—	×	×	—	—	×	×	—	—	—	5
20	×	×	×	—	×	—	×	—	×	×	×	×	—	9
21	×	—	—	×	×	×	—	—	×	—	×	×	×	8
22	×	×	—	—	×	×	×	×	—	×	×	—	×	9
23	×	×	×	—	×	—	×	×	—	×	—	×	—	8
24	×	×	×	—	×	×	—	—	×	—	—	—	—	6
25	×	—	×	—	×	—	×	×	—	×	—	—	×	7
Number of concordant predictions for each subject	15	17	11	9	19	13	17	15	18	15	12	12	10	183

× = concordant prediction
— = discordant prediction

Appendix 5a

DEGREE OF CERTAINTY FOR THE PREDICTION OF THE BEHAVIOUR OF THE PERSON TO BE JUDGED

Junior psychology students

No. of behaviour situation	No. of subject														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	8	5	7	6	4	6	7	7	9	7	1	7	7	4	7
2	6	5	7	2	9	2	7	1	5	7	7	5	5	5	7
3	7	3	8	5	7	3	3	3	4	7	6	8	8	6	8
4	6	7	6	5	5	7	6	5	1	5	3	4	5	6	2
5	5	5	9	4	3	6	9	3	2	5	3	7	9	9	7
6	2	6	7	7	4	4	7	5	7	1	8	7	8	8	8
7	8	6	7	5	6	4	4	6	8	9	6	6	9	6	8
8	7	2	7	5	8	3	8	2	2	9	7	6	7	2	4
9	6	8	8	5	5	7	4	3	8	9	4	8	8	6	7
10	8	7	5	1	5	3	1	3	7	8	9	7	8	5	9
11	6	7	7	4	7	7	4	1	6	9	5	1	8	3	6
12	9	4	5	1	3	3	5	5	7	9	2	3	7	1	8
13	8	6	7	5	6	7	6	3	2	7	3	9	8	9	5
14	9	5	3	2	7	5	5	3	4	8	9	5	6	3	3
15	5	8	6	3	9	4	1	3	7	8	6	8	7	5	9
16	3	7	5	5	5	7	1	3	9	7	1	1	9	7	3
17	5	8	8	7	8	3	8	5	1	5	5	3	9	7	6
18	4	6	5	2	3	5	7	3	3	6	6	1	7	4	7
19	1	1	8	8	8	7	8	3	3	8	5	7	8	6	8
20	1	5	3	8	7	4	8	2	5	9	5	3	8	6	5
21	8	6	7	3	5	5	3	3	8	9	2	5	7	5	4
22	7	6	3	6	8	6	3	6	4	8	7	1	8	8	8
23	7	3	5	5	2	5	6	3	7	5	8	3	7	9	8
24	8	6	9	5	3	5	6	1	3	8	5	6	6	6	6
25	6	6	7	6	5	6	2	2	1	5	3	9	8	2	1
M	6.00	5.52	6.36	4.60	5.68	4.96	5.16	3.36	4.92	7.12	5.04	5.20	7.48	5.52	6.16
σ	2.26	1.76	1.69	1.94	2.01	1.56	2.39	1.57	2.61	1.91	2.31	2.55	1.10	2.17	2.18

Appendix 5 b

DEGREE OF CERTAINTY FOR THE PREDICTION OF THE BEHAVIOUR OF THE PERSON TO BE JUDGED

Senior psychology students

No. of behaviour situation	No. of subject															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	7	7	7	4	2	7	5	4	3	5	5	8	7	3	7	3
2	5	8	9	2	3	6	6	4	5	8	7	8	1	5	3	5
3	7	6	8	2	3	2	1	4	5	6	1	5	1	1	5	4
4	3	8	7	1	3	3	4	6	3	4	4	7	7	3	5	3
5	5	5	6	6	7	2	6	8	7	8	8	4	7	5	3	5
6	7	8	2	3	7	5	7	9	5	4	8	7	7	5	7	2
7	5	7	5	1	3	5	3	7	7	7	3	6	7	3	3	2
8	7	6	4	1	5	9	8	7	3	6	7	4	5	5	5	5
9	3	9	3	1	5	6	7	7	5	2	1	3	7	5	1	5
10	5	9	2	7	5	5	8	4	3	9	6	2	3	5	5	5
11	5	7	6	7	3	5	7	6	5	1	3	1	7	3	5	4
12	7	5	7	3	5	4	6	3	5	7	3	5	5	5	3	3
13	7	8	7	1	5	8	4	1	1	5	8	5	5	7	5	4
14	7	7	3	5	3	1	4	3	3	9	6	4	5	3	5	3
15	3	9	4	5	8	1	1	3	3	2	7	5	6	7	5	4
16	5	3	7	3	2	4	3	4	5	8	4	7	9	5	8	5
17	5	5	5	5	3	7	5	5	5	7	7	4	7	5	8	5
18	7	4	8	7	1	4	1	3	5	8	7	7	7	5	7	2
19	6	6	2	1	5	3	6	5	3	7	6	7	7	5	3	6
20	9	7	5	6	5	3	6	6	3	6	2	7	7	1	3	6
21	5	5	4	6	6	6	5	5	3	3	5	4	7	5	3	3
22	7	6	8	7	5	7	7	3	5	6	1	6	7	3	5	4
23	5	3	2	6	1	5	6	5	3	4	7	3	5	3	5	3
24	7	7	7	8	3	3	5	8	5	7	3	9	5	5	3	3
25	3	8	3	8	3	4	1	3	1	1	8	6	3	5	3	5
M	5.68	6.52	5.24	4.24	4.04	4.60	4.88	4.92	4.04	5.60	5.08	5.36	5.76	4.28	4.60	3.96
σ	1.57	1.70	2.18	2.45	1.80	2.06	2.14	1.94	1.51	2.37	2.32	1.96	1.94	1.48	1.77	1.18

Appendix 5c

DEGREE OF CERTAINTY FOR THE PREDICTION OF THE BEHAVIOUR OF THE PERSON TO BE JUDGED

Junior classical students

No. of behaviour situation	No. of subject													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	7	3	7	5	6	7	7	7	7	3	7	3	9	7
2	6	5	6	7	7	9	4	8	9	7	4	5	2	5
3	5	1	4	6	8	7	6	1	9	3	5	4	4	7
4	8	9	6	8	8	9	8	7	3	5	1	4	9	6
5	8	9	3	7	9	9	9	7	7	7	7	6	6	8
6	8	3	3	9	7	7	5	6	9	5	7	5	5	5
7	3	7	4	7	7	8	6	1	7	5	2	6	9	3
8	3	8	4	8	7	5	5	8	7	7	6	7	5	8
9	3	6	9	6	7	8	4	7	9	2	6	6	8	6
10	4	9	1	8	1	7	7	8	3	7	3	6	5	8
11	1	5	3	8	9	9	6	8	3	2	5	7	9	6
12	7	8	3	6	8	3	6	4	7	6	6	4	1	5
13	5	7	5	7	6	3	3	1	3	6	6	7	5	7
14	3	6	3	7	8	7	4	2	7	5	3	6	7	6
15	8	3	7	8	7	8	7	3	5	5	1	4	3	7
16	8	8	4	9	6	5	6	4	5	8	5	7	8	7
17	7	8	8	2	6	8	8	2	5	8	7	7	9	7
18	4	7	6	7	7	5	5	2	1	1	3	4	1	4
19	6	7	4	8	6	8	6	8	1	9	4	7	3	1
20	3	8	3	7	7	1	5	1	7	5	6	6	9	8
21	4	8	5	7	6	7	4	6	5	4	7	8	5	5
22	7	9	7	6	9	5	6	8	9	7	6	3	9	5
23	2	9	7	5	9	8	5	5	1	7	8	5	3	5
24	8	6	5	7	1	2	3	1	9	1	4	3	2	6
25	7	5	1	7	1	9	7	7	7	8	9	4	5	2
M	5.40	6.56	4.72	6.88	6.52	6.56	5.68	4.88	5.80	5.32	5.12	5.36	5.64	5.76
σ	2.19	2.19	2.03	1.42	2.26	2.28	1.52	2.75	2.65	2.24	2.06	1.47	2.74	1.79

Appendix 5d

DEGREE OF CERTAINTY FOR THE PREDICTION OF THE BEHAVIOUR OF THE PERSON TO BE JUDGED

Senior classical students

No. of behaviour situation	No. of subject												
	1	2	3	4	5	6	7	8	9	10	11	12	13
1	5	9	2	8	2	3	7	5	4	3	5	1	7
2	8	5	6	4	4	3	5	3	5	5	7	7	6
3	9	5	6	6	7	4	5	6	6	3	4	5	2
4	8	7	8	4	6	3	5	5	4	4	1	5	1
5	6	9	9	6	8	5	8	6	4	4	7	9	4
6	8	7	9	6	8	5	5	3	9	4	7	5	2
7	8	5	7	6	7	6	7	7	1	3	5	7	5
8	7	1	7	1	5	1	5	4	4	4	2	7	3
9	4	3	9	7	7	3	4	7	6	9	4	3	3
10	7	9	8	6	2	1	5	4	6	6	7	1	5
11	5	2	4	7	1	1	5	7	5	7	7	4	1
12	5	1	7	6	4	5	8	6	5	6	7	5	3
13	9	7	9	5	3	5	4	3	7	7	7	9	4
14	7	2	6	3	4	1	7	3	4	6	6	7	1
15	8	3	8	7	7	5	7	5	5	3	8	9	1
16	7	3	7	5	4	7	3	8	7	6	8	8	5
17	4	7	8	7	7	7	7	6	6	6	7	8	3
18	7	5	5	6	3	1	4	2	3	4	7	6	8
19	9	3	8	5	8	1	5	1	3	5	7	9	6
20	6	1	6	3	7	5	7	5	4	6	6	5	8
21	7	3	9	5	5	1	1	7	5	3	2	3	5
22	8	5	9	3	7	5	7	1	3	4	7	9	5
23	4	1	5	6	7	5	5	2	4	5	4	6	1
24	3	3	7	5	3	5	5	8	7	5	6	3	7
25	6	1	8	4	6	1	1	4	5	3	7	7	7
M	6.60	4.28	7.08	5.24	5.28	3.56	5.28	4.72	4.88	4.84	5.80	5.92	4.12
σ	1.70	2.63	1.74	1.58	2.09	2.02	1.82	2.05	1.63	1.54	1.90	2.40	2.27

Appendix 5e

DEGREE OF CERTAINTY FOR THE PREDICTION OF THE BEHAVIOUR OF THE PERSON TO BE JUDGED

Junior science students

No. of behaviour situation	No. of subject																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	9	8	5	9	6	4	6	4	8	7	7	7	1	4	3	7	5
2	5	6	7	8	8	3	7	9	7	8	7	9	3	1	7	6	3
3	7	5	5	7	7	2	3	2	6	5	3	2	4	6	5	7	8
4	7	6	9	1	2	5	1	4	6	7	3	3	5	7	7	6	7
5	3	4	7	6	8	5	9	3	7	5	4	4	1	3	3	5	6
6	8	6	7	3	7	1	7	8	1	7	3	8	7	7	7	4	2
7	5	4	1	9	5	4	4	2	2	7	7	7	5	2	3	7	7
8	4	7	5	6	8	1	6	6	8	6	1	6	1	6	9	7	9
9	7	8	9	7	5	3	7	7	8	8	6	6	4	2	3	3	7
10	1	7	9	6	1	3	6	7	8	7	5	5	5	1	9	5	7
11	5	2	5	7	2	6	6	6	3	6	5	8	2	5	4	6	5
12	3	1	7	8	7	4	7	3	3	3	5	8	1	3	5	7	6
13	7	7	1	7	7	7	7	5	8	6	6	7	4	3	5	7	4
14	9	2	7	6	7	4	4	3	6	7	4	7	6	4	6	5	7
15	3	4	5	8	5	1	5	4	7	5	8	9	1	4	5	8	8
16	7	6	7	7	5	4	7	4	6	8	6	9	4	1	2	7	8
17	6	4	8	9	7	5	6	3	8	7	1	9	1	8	6	5	7
18	7	2	4	6	1	5	7	5	7	2	5	5	3	4	3	6	6
19	7	7	7	6	8	3	2	5	5	5	4	3	2	5	4	4	8
20	8	8	8	7	3	4	8	2	7	7	4	5	3	1	5	4	5
21	7	7	3	4	8	1	5	6	8	2	3	9	4	3	5	6	8
22	6	1	6	9	8	6	2	5	5	4	5	1	5	4	3	2	7
23	7	6	8	8	7	5	7	1	3	3	3	3	7	1	4	3	8
24	5	7	7	5	8	5	6	4	6	7	2	4	3	2	8	7	8
25	5	8	6	5	7	1	4	2	7	6	6	7	4	4	5	5	9
M	5.92	5.32	6.12	6.56	5.88	3.68	5.56	4.40	6.00	5.80	4.52	6.04	3.44	3.64	5.04	5.56	6.60
σ	1.96	2.24	2.14	1.90	2.29	1.71	1.96	2.00	2.04	1.77	1.84	2.37	1.84	2.02	1.91	1.53	1.74

Appendix 5f

DEGREE OF CERTAINTY FOR THE PREDICTION OF THE BEHAVIOUR OF THE PERSON TO BE JUDGED

Senior science students

No. of behaviour situation	No. of subject												
	1	2	3	4	5	6	7	8	9	10	11	12	13
1	6	3	7	5	6	5	5	3	5	7	3	3	6
2	6	5	6	1	7	7	7	8	3	7	5	7	1
3	7	6	7	4	4	3	5	6	3	5	3	5	3
4	7	4	2	3	7	1	4	2	3	8	5	1	6
5	6	5	5	8	6	1	8	7	3	7	5	7	6
6	9	1	7	7	5	6	7	4	3	8	5	1	6
7	7	9	5	5	7	3	2	4	7	7	1	1	6
8	7	2	8	1	4	7	7	3	5	8	3	3	6
9	7	4	3	6	6	4	9	4	5	3	5	5	3
10	9	8	7	7	7	6	8	4	3	8	5	9	6
11	6	6	5	2	5	5	6	6	3	8	3	3	3
12	8	9	6	2	7	2	4	7	3	5	3	3	3
13	7	6	5	2	7	8	7	5	1	5	5	1	3
14	7	5	6	3	6	6	4	9	7	7	1	3	3
15	7	5	7	5	7	3	2	3	1	6	5	1	3
16	7	3	4	4	6	1	8	5	7	7	5	5	3
17	8	3	6	5	6	8	8	7	1	8	1	3	6
18	1	4	7	1	5	7	4	6	1	7	3	5	6
19	2	3	7	3	6	3	4	4	7	7	3	5	6
20	2	3	3	3	7	4	6	3	3	7	5	1	3
21	6	1	7	7	6	5	9	5	3	7	3	3	3
22	4	3	6	6	5	4	4	1	7	8	7	5	6
23	3	6	3	8	8	2	5	2	5	8	3	5	6
24	7	3	7	8	8	6	8	3	5	5	5	3	3
25	1	2	3	3	5	9	1	8	3	7	3	5	3
M	5.88	4.36	5.56	4.36	6.12	4.64	5.68	4.76	3.88	6.80	3.80	3.72	4.36
σ	2.29	2.15	1.65	2.26	1.07	2.30	2.22	2.06	1.97	1.26	1.50	2.11	1.62

Appendix 6a

DEGREE OF CERTAINTY FOR THE PREDICTION OF THE SUBJECT'S OWN BEHAVIOUR

Junior psychology students

No. of behaviour situation	No. of subject														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	7	7	7	8	6	5	9	7	9	9	9	7	9	1	7
2	8	6	8	5	5	7	3	6	2	9	7	3	8	5	6
3	3	7	7	8	7	6	5	5	7	1	8	6	9	9	8
4	7	8	8	4	8	8	3	1	1	9	8	3	9	6	8
5	9	6	9	6	7	5	8	3	2	7	9	8	9	9	9
6	8	7	8	9	5	7	5	5	6	7	9	5	8	9	8
7	9	6	8	7	8	6	4	3	9	8	9	9	9	5	9
8	7	7	7	9	9	7	6	9	7	9	1	7	8	7	6
9	4	7	7	5	7	5	8	3	9	9	8	7	9	2	8
10	4	7	9	9	7	7	9	7	5	9	9	8	9	5	8
11	8	8	7	5	8	6	3	1	4	7	8	3	9	9	9
12	3	3	4	1	8	9	5	9	9	7	7	3	7	9	8
13	8	7	7	7	5	7	9	5	5	8	8	8	8	3	5
14	7	7	7	4	8	4	9	9	7	7	9	3	9	8	4
15	6	7	7	1	8	6	7	3	5	8	9	8	8	7	7
16	9	9	7	7	7	9	1	7	9	9	7	8	9	8	8
17	2	6	9	9	8	7	9	3	5	9	8	7	9	7	3
18	4	6	5	3	7	7	1	3	4	8	9	8	9	7	3
19	9	8	8	8	8	7	9	1	8	8	8	7	9	7	5
20	3	6	4	8	5	6	7	2	2	9	8	6	9	9	8
21	8	7	5	5	8	6	7	7	2	7	8	5	8	6	9
22	9	7	7	6	7	8	1	3	5	7	8	8	9	6	9
23	9	6	8	8	6	8	9	1	9	7	9	5	9	8	9
24	8	7	8	1	3	6	9	4	7	7	7	1	9	6	9
25	8	8	9	9	7	7	3	7	2	5	1	5	6	1	2
M	6.68	6.80	7.20	6.08	6.88	6.64	5.96	4.56	5.60	7.72	7.64	5.92	8.56	6.36	7.00
σ	2.28	1.10	1.39	2.56	1.37	1.20	2.84	2.58	2.65	1.02	2.08	2.15	0.75	2.41	2.12

Appendix 6b

DEGREE OF CERTAINTY FOR THE PREDICTION OF THE SUBJECT'S OWN BEHAVIOUR

Senior psychology students

No. of behaviour situation	No. of subject															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	5	8	5	1	8	4	6	9	7	6	9	6	9	7	9	5
2	5	5	6	3	7	4	7	2	9	4	8	1	9	9	7	5
3	7	7	2	2	7	5	4	5	7	8	6	4	5	9	7	5
4	7	6	7	7	5	4	6	7	7	8	3	5	9	9	7	4
5	9	8	3	9	3	3	7	9	7	8	1	1	7	7	9	4
6	5	5	8	5	7	5	4	6	7	8	7	8	7	7	9	5
7	9	7	7	1	5	5	6	9	9	8	5	8	7	5	5	6
8	9	9	3	7	5	6	9	9	5	6	3	5	9	7	9	5
9	7	9	5	3	7	6	6	7	7	2	3	7	2	5	5	7
10	9	6	5	7	3	2	5	4	9	9	1	3	5	9	9	5
11	7	8	7	1	5	8	6	9	9	9	6	1	7	9	7	9
12	5	2	7	7	5	8	5	4	7	9	5	3	7	7	5	7
13	5	1	8	1	7	6	6	9	5	2	7	6	7	7	7	5
14	9	6	7	7	7	4	4	4	7	9	7	3	8	7	7	7
15	7	3	1	8	7	6	7	5	7	1	3	1	8	7	5	3
16	9	1	7	2	8	5	5	8	7	6	8	1	2	7	9	9
17	7	7	8	7	5	9	8	4	9	4	5	1	8	7	9	3
18	7	3	7	7	7	2	2	7	9	8	8	7	8	9	7	7
19	9	8	8	7	7	5	7	3	9	8	1	7	9	7	9	2
20	7	6	8	8	5	5	5	5	7	8	1	1	2	9	9	8
21	9	5	7	8	5	7	4	4	7	4	7	3	9	9	9	5
22	9	8	8	1	7	3	7	5	5	9	3	5	9	9	9	4
23	5	7	5	9	8	6	1	7	5	8	8	3	5	9	9	3
24	7	3	1	9	6	2	7	9	9	8	1	5	9	5	9	5
25	7	7	9	9	9	6	7	9	7	9	8	3	9	9	7	9
M	7.24	5.80	5.96	5.44	6.20	5.04	5.64	6.36	7.32	6.76	4.96	3.92	7.04	7.64	7.72	5.48
σ	1.53	2.35	2.27	3.00	1.50	1.82	1.76	2.24	1.35	2.44	2.68	2.36	2.25	1.35	1.48	1.92

Appendix 6c

DEGREE OF CERTAINTY FOR THE PREDICTION OF THE SUBJECT'S OWN BEHAVIOUR

Junior classical students

No. of behaviour situation	No. of subject													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	7	1	3	7	9	9	7	9	9	8	9	8	9	5
2	6	9	7	6	3	5	6	6	9	7	6	6	9	7
3	6	8	5	5	9	8	6	6	9	9	4	6	9	8
4	8	7	5	8	7	9	8	9	9	3	1	8	9	8
5	9	6	4	7	9	9	7	6	9	8	9	8	9	7
6	9	8	4	8	9	7	8	9	9	8	8	1	9	7
7	7	8	5	6	3	9	6	6	9	9	7	8	9	6
8	7	7	7	9	7	7	7	7	9	7	7	8	9	4
9	9	7	8	5	7	3	7	4	9	8	9	7	9	7
10	9	8	5	7	7	7	8	5	9	7	5	5	7	5
11	8	7	6	5	9	9	6	8	9	1	3	8	9	9
12	7	5	3	5	9	7	8	8	9	7	8	6	1	8
13	7	9	5	7	5	6	7	7	9	8	5	7	9	7
14	7	9	6	7	9	8	6	7	9	9	8	7	9	7
15	7	7	7	8	7	7	9	8	9	6	8	6	8	8
16	9	8	5	6	3	8	7	7	9	9	8	8	9	7
17	8	9	7	6	5	3	8	8	9	7	7	9	9	8
18	8	3	5	5	6	9	7	7	9	8	9	4	3	9
19	9	8	5	9	7	8	7	8	9	9	9	8	9	6
20	8	7	3	7	6	9	9	9	9	8	9	9	9	7
21	8	8	7	7	7	5	7	7	9	7	8	6	9	6
22	6	7	5	6	5	9	6	9	9	6	1	8	9	8
23	8	5	6	5	6	1	6	7	9	7	6	5	1	9
24	9	9	8	7	8	3	8	6	9	5	9	7	1	9
25	8	8	7	8	5	3	8	5	9	8	9	5	9	7
M	7.76	7.12	5.52	6.64	6.68	6.72	7.16	7.12	9.00	7.16	6.88	6.72	7.68	7.16
σ	0.99	1.88	1.45	0.84	1.93	2.39	0.92	1.37	0.00	1.85	2.41	1.75	2.75	1.28

Appendix 6d

DEGREE OF CERTAINTY FOR THE PREDICTION OF THE SUBJECT'S OWN BEHAVIOUR

Senior classical students

No. of behaviour situation	No. of subject												
	1	2	3	4	5	6	7	8	9	10	11	12	13
1	8	9	7	9	7	3	5	7	6	9	5	5	8
2	8	9	9	3	7	5	5	3	4	5	7	7	4
3	9	9	8	6	8	7	3	3	7	8	7	7	1
4	8	9	3	7	1	7	7	9	6	8	6	9	3
5	6	1	9	8	9	9	5	5	9	9	8	9	7
6	8	1	4	8	7	9	8	2	7	8	6	9	6
7	8	1	9	7	6	7	8	6	5	8	7	7	1
8	6	7	7	6	6	5	1	8	7	9	4	6	4
9	3	9	9	7	9	9	8	6	5	9	7	5	2
10	8	9	1	8	8	7	8	3	5	7	3	9	9
11	7	9	8	3	7	7	8	8	7	9	6	7	1
12	7	7	6	6	7	1	8	7	3	9	6	5	4
13	7	9	7	7	6	5	3	6	6	8	8	7	2
14	9	9	6	7	7	1	7	2	4	7	5	1	1
15	8	7	5	7	9	7	7	6	5	8	6	8	2
16	6	9	4	3	8	7	5	7	9	9	8	6	9
17	7	9	7	9	1	1	7	9	4	8	7	7	1
18	6	7	8	7	5	3	7	7	2	7	6	7	5
19	9	9	9	5	7	7	4	9	9	9	8	9	2
20	8	9	7	8	6	1	7	7	6	8	7	8	4
21	7	9	8	6	2	5	9	6	3	6	8	7	3
22	8	7	9	6	9	7	3	7	7	6	7	3	5
23	7	1	6	6	8	3	8	2	3	8	7	9	6
24	8	9	8	1	8	9	2	7	9	6	7	8	4
25	7	9	9	3	9	5	1	9	8	6	8	9	7
M	7.32	7.32	6.92	6.12	6.68	5.48	5.76	6.04	5.84	7.76	6.56	6.96	4.04
σ	1.26	2.87	2.10	2.03	2.26	2.61	2.39	2.25	2.03	1.17	1.27	1.97	2.51

Appendix 6e

DEGREE OF CERTAINTY FOR THE PREDICTION OF THE SUBJECT'S OWN BEHAVIOUR

Junior science students

No. of behaviour situation	No. of subject																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	9	9	8	6	5	5	3	2	8	2	3	7	4	5	7	8	6
2	8	8	7	8	7	6	5	7	8	6	1	8	5	2	5	7	7
3	7	5	7	6	5	6	6	3	5	3	7	9	2	5	7	4	4
4	7	6	1	7	5	1	7	5	1	5	7	4	3	4	7	6	8
5	1	6	7	2	8	3	6	6	7	7	5	7	2	2	7	5	8
6	7	8	8	8	5	4	5	9	8	7	1	7	1	4	7	7	6
7	5	7	9	9	5	4	5	4	8	3	1	8	5	6	5	8	8
8	8	7	4	7	8	7	8	3	9	7	3	7	5	1	5	7	9
9	8	9	9	1	6	4	4	2	8	5	7	8	8	6	3	7	8
10	5	7	4	8	8	5	6	3	2	6	7	8	2	4	6	7	4
11	4	8	4	8	7	2	3	8	1	3	8	8	8	2	8	6	6
12	7	8	8	6	8	2	7	7	1	7	6	5	6	6	2	8	7
13	6	4	6	7	8	7	4	6	5	7	7	8	2	6	6	7	7
14	8	4	9	4	8	4	7	5	3	7	8	3	6	5	6	8	7
15	8	5	7	9	8	3	4	7	7	7	7	8	3	4	7	8	6
16	7	9	9	9	8	4	7	6	7	6	7	8	7	5	7	9	8
17	8	8	1	7	8	4	5	3	8	9	7	7	9	4	9	9	8
18	7	6	4	6	8	5	6	1	8	2	3	9	2	1	5	3	8
19	6	8	8	6	2	6	7	7	5	8	6	9	5	4	6	2	8
20	7	8	7	6	3	3	6	1	2	7	6	8	5	2	3	9	7
21	8	9	6	8	1	5	3	8	8	8	5	9	7	3	6	7	6
22	6	6	7	8	8	7	6	6	1	8	7	8	8	3	7	8	6
23	8	4	6	8	7	5	4	4	3	5	1	3	3	4	4	5	6
24	8	5	8	7	8	6	5	8	2	3	7	7	1	4	4	1	8
25	9	6	9	9	1	2	6	5	7	7	5	8	1	2	8	9	9
M	6.88	6.80	6.52	6.80	6.20	4.40	5.40	5.04	5.28	5.80	5.28	7.24	4.40	3.76	5.88	6.60	7.00
σ	1.71	1.62	2.28	1.98	2.28	1.65	1.39	1.43	2.20	2.00	2.32	1.68	2.45	1.53	1.68	2.14	1.30

Appendix 6f

DEGREE OF CERTAINTY FOR THE PREDICTION OF THE SUBJECT'S OWN BEHAVIOUR

Senior science students

No. of behaviour situation	No. of subject												
	1	2	3	4	5	6	7	8	9	10	11	12	13 *
1	6	7	2	2	7	6	7	8	3	8	5	3	
2	2	5	8	7	8	1	9	9	1	8	5	1	
3	2	6	7	7	7	9	3	8	7	8	7	1	
4	6	9	4	5	3	9	9	9	5	7	7	3	
5	2	9	9	1	8	7	1	9	7	9	7	9	
6	4	9	1	3	7	6	9	9	5	5	5	5	
7	8	9	9	7	4	3	9	9	7	8	3	5	
8	3	9	9	9	8	9	9	9	5	9	7	9	
9	7	1	5	7	5	7	9	9	7	8	7	8	
10	3	9	8	8	6	9	9	7	7	8	3	1	
11	4	5	8	9	8	9	9	9	1	9	7	8	
12	4	1	6	8	6	2	9	9	5	7	5	2	
13	1	9	6	7	4	5	6	8	7	9	5	8	
14	5	9	3	2	6	3	9	9	5	8	5	8	
15	6	9	8	6	6	1	4	8	3	7	3	6	
16	9	9	5	5	8	9	9	9	5	7	7	9	
17	8	5	8	6	9	9	8	9	3	7	7	9	
18	4	9	7	1	5	7	9	7	5	7	3	9	
19	8	9	8	8	8	9	9	9	9	9	3	9	
20	8	9	7	9	8	3	9	9	7	8	3	9	
21	2	3	9	9	5	8	9	7	5	9	5	9	
22	2	9	7	9	8	6	9	9	3	9	5	6	
23	7	9	8	1	7	4	9	6	5	8	7	9	
24	8	9	4	7	7	7	9	9	7	9	7	3	
25	9	9	7	9	1	9	9	9	7	8	5	6	
M	5.12	7.44	6.52	6.08	6.36	6.28	8.00	8.48	5.24	7.96	5.32	6.20	
σ	2.54	2.56	2.21	2.76	1.87	2.72	2.14	0.85	1.98	0.96	1.57	2.94	

* subject No. 13 omitted to state his degree of certainty.

Appendix 7

NEDERLANDSE TEKST VAN DE BESCHRIJVINGSTERMEN VAN DE Q-SORT

(Dutch text of the Q-sort adjectives)

1. afleidbaar
2. avontuurlijk
3. bedeesd
4. behulpzaam
5. bescheiden
6. besluiteloos
7. betrouwbaar
8. dikhuidig
9. dom
10. dromerig
11. echt
12. eenzelvig
13. eigenwijs
14. emotioneel
15. energiek
16. ernstig
17. fantasierijk
18. fijnbesnaard
19. geborneerd
20. geestig
21. gemaakt
22. gemoedswarm
23. gelijkmoedig
24. gesloten
25. gezellig
26. goedaardig
27. hartelijk
28. hoffelijk
29. humeurig
30. ijverig
31. impulsief
32. intelligent
33. kortzichtig
34. kritisch
35. kunstzinnig
36. lomp
37. lui
38. mannelijk
39. nauwgezet
40. nerveus
41. nuchter
42. onaangedaan
43. onbevangen
44. onderdanig
45. oneerlijk
46. ongeduldig
47. ongemanierd
48. onhandig
49. onnadenkend
50. onorigineel
51. onsympathiek
52. onverschillig
53. onzeker
54. openhartig
55. opgewekt
56. plooibaar
57. praktisch
58. ruimdenkend
59. rustig
60. saai
61. spontaan
62. stug
63. vasthoudend
64. veelzijdig
65. verlegen
66. verstandelijk
67. verstrooid
68. verwijfd
69. vindingrijk
70. volgzaam
71. vooringenomen
72. vormelijk
73. vriendelijk
74. vrijmoedig
75. wispelturig
76. zelfbewust
77. zelfingenomen
78. zelfstandig
79. zorgeloos
80. zwaartillend

Appendix 8

NEDERLANDSE TEKST VAN DE 25 GEDRAGSSITUATIES

(Dutch text of the 25 behaviour situations)

1. Als U bij een lezing of bijeenkomst binnenkomt terwijl het programma al begonnen is en U ziet dat achter in de zaal mensen staan, maar dat vooraan nog plaatsen onbezet zijn,
   a. gaat U dan naar voren, als U dit kunt doen zonder grof of onbeleefd te worden, maar wanneer het toch door de meeste aanwezigen duidelijk zal worden opgemerkt?
   b. blijft U achter in de zaal staan?
2. U bent bij een lezing waar meer dan 30 mensen aanwezig zijn, en U bent het niet met de spreker eens:
   a. staat U dan op om dat kenbaar te maken?
   b. zegt U niets tijdens de lezing, maar vertelt U Uw afwijkende mening na afloop aan Uw buurman?
3. Als een vriend van U, met wie U niet zo intiem bent, iets heeft dat U erg graag zoudt willen lenen (bijv. een paar schaatsen):
   a. vraagt U hem dit te mogen lenen?
   b. vraagt U het niet?
4. Als een blinde bij U aan de deur komt om borstels te verkopen, maar U hebt op dat ogenblik geen borstels nodig en U vindt de prijs vrij hoog:
   a. koopt U dan toch?
   b. koopt U niet?
5. Als U Uw loonzakje ontvangt:
   a. controleert U dan iedere keer of de berekening van Uw loon klopt?
   b. controleert U de berekening niet en vertrouwt U erop dat het in orde is?
6. U wilt een vrij kostbare verzekering afsluiten,
   a. raadpleegt U dan verschillende agenten en bestudeert U de folders?
   b. gaat U af op het advies van iemand waarin U vertrouwen stelt?
7. U zit in een volle bus. Bij de halte waar U moet uitstappen ontstaat enig gedrang. zodat de bus al verder rijdt voordat U hebt kunnen uitstappen. Wat doet U:
   a. verzoekt U de chauffeur alsnog te stoppen?
   b. rijdt U door tot de volgende halte, die ongeveer 500 meter verder ligt?
8. Wat doet U:
   a. koopt U een goede stropdas die een jaar meegaat en f 10,— kost?
   b. koopt U twee stropdassen die f 5,— per stuk kosten en die maar een half jaar meegaan?
9. Als U schriftelijk examen doet, en U merkt na vijf minuten dat U de vragen niet kunt beantwoorden:
   a. gaat U dan onmiddellijk naar huis?
   b. blijft U zitten tot de tijd van het examen verstreken is?
10. Als U meedoet aan een kinderfeest in de St. Nicolaastijd,
    a. bent U dan liever Sinterklaas?
    b. bent U liever Zwarte Piet?
11. Als Uw vrouw (of verloofde) een Smyrna-tapijt wil knopen, waar U samen de hele winter twee avonden in de week mee bezig bent,
    a. helpt U haar dan al die tijd daarmee?

b. tracht U haar van dit voornemen af te brengen omdat U het vervelend vindt het haar alleen te laten doen ?

12 Uw buurman, die door U slechts vluchtig wordt gegroet, heeft een hond die 's nachts voortdurend blaft.
a. Gaat U zich bij Uw buurman beklagen ?
b. Accepteert U dat ongemak om geen ruzie met die man te krijgen ?

13. U besluit een cursus te volgen, waardoor U in het bedrijf waar U werkt een hogere functie kunt bereiken. Na enige tijd valt de cursus U tegen · U had gedacht dat het interessanter zou zijn
a. gaat U met die cursus door ?
b. ziet U van de cursus af en gebruikt U de tijd die U daaraan besteed zou hebben, om — bijvoorbeeld door maatschappelijk werk en verenigingsleven — sociaal meer in aanzien te komen, wat Uw kans op promotie eveneens vergroot ?

14 U zit in de bioscoop en vlak voor U zit een dame met een grote hoed op. U kunt de film slechts met moeite volgen, ook als U voortdurend scheef gaat zitten.
a. Vraagt U die dame haar hoed af te zetten ?
b. Accepteert U dat ongemak ?

15 U moet samen met een groep iets organiseren.
a. Houdt U ervan de leiding te hebben ?
b. Hebt U liever dat een ander de leiding heeft ?

16. U bent in een gezelschap. U hebt bijzonder veel zin in een sigaret. U hebt nog maar één sigaret, zodat U niet kunt presenteren.
a. Steekt U die sigaret toch op ?
b Rookt U niet ?

17. U fietst 's avonds laat naar huis en komt bij een stoplicht dat op rood staat als U aankomt. U ziet dat behalve U niemand bij dat kruispunt staat.
a. Houdt U zich aan de verkeersregels en wacht U derhalve tot het groene licht verschijnt ?
b. Negeert U het rode licht en rijdt U gewoon door ?

18. U zit in de bus die U naar het station brengt, waar U een bepaalde trein moet halen. Waarschijnlijk komt U nog net op tijd voor deze trein. Bij een van de laatste haltes treuzelt een passagier echter erg lang bij het instappen en betalen
a. Laat U deze medereiziger en de chauffeur duidelijk merken dat U veel haast hebt ?
b. Reageert U niet, waardoor U praktisch zeker de trein zult missen ?

19. U moet een nieuw pak voor U zelf kopen.
a. Gaat U alleen ?
b. Neemt U iemand mee om zijn (of haar) oordeel te vernemen ?

20. Wanneer de bediende in een winkel, waar U al enige tijd hebt staan wachten, U over het hoofd ziet en een klant helpt die na U is binnengekomen, wat doet U dan :
a. hem zeggen dat U eerder aan de beurt was ?
b. wachten tot hij die klant geholpen heeft en U aan de beurt komt ?

21. U hebt een dik boek, dat U interesseert maar niet boeit, en een kleiner, oppervlakkiger, maar spannender werkje. In het dikke boek bent U halverwege.
a. Onderbreekt U Uw lectuur om eerst het spannende boekje te lezen ?
b. Leest U eerst het dikke boek uit ?

22. U merkt dat Uw fietsenmaker (of autoreparateur) U al enige tijd flink bedriegt.
a. Gaat U zonder iets te zeggen naar een ander ?
b Zegt U hem eerst waar het op staat en loopt U dan weg ?

23. U bent bij een wat ouder echtpaar uitgenodigd om de avond door te brengen. Zij hebben een pick-up en U brengt voor de gezelligheid een plaat mee die U pas gekocht hebt (prijs f 10,—). De bedoeling is hem alleen maar af te draaien De

oude mensen tonen zich zeer verrast en blijken in de veronderstelling te zijn dat het een cadeautje is.

a. Ruimt U het misverstand uit de weg ?

b. Laat U hen de plaat behouden ?

24. U komt langs een plaats waar een ongeluk gebeurd is. Ambulance is ter plaatse. Mensen stromen toe.

a. Blijft U staan om te weten te komen wat er gebeurd is ?

b. Loopt U vlug door (met een vreemd gevoel in Uw maag) ?

25. Waar eet U bij voorkeur nieuwe haring :

a. aan een stalletje ?

b. thuis ?

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STELLINGEN

I

Abituriënten die psychologie als studievak kiezen, beschikken in het algemeen niet over meer praktische mensenkennis dan abituriënten die een andere studierichting kiezen.

II

De academische studie in de psychologie drukt een stempel op de wijze waarop gevorderde psychologiestudenten anderen beoordelen.

III

De academische studie in de psychologie vermindert niet de tendens om bij het beoordelen van een ander eigen reactiegeneigdheden toe te schrijven aan die ander.

IV

Indien een toename van de praktische mensenkennis onder invloed van de academische studie in de psychologie bij het beëindigen van die studie niet aantoonbaar is, dient rekening te worden gehouden met de mogelijkheid dat deze invloed op latere leeftijd manifest kan worden.

V

Het antwoord op de vraag of vrouwen en mannen over evenveel praktische mensenkennis beschikken is afhankelijk van de wijze waarop praktische mensenkennis wordt bepaald.

VI

Het is onjuist de objectief-statistische en de subjectief-intuïtieve methode in de psychologie als alternatieven te beschouwen, die niet met vrucht in een onderzoek zouden kunnen worden gebezigd.

VII

In het algemeen wordt een valide generalisatie van de resultaten van een experimenteel sociaal-psychologisch onderzoek moeilijker naarmate het onderzoek aan hogere experimenteel-methodische eisen voldoet.

J. KREMERS
6 juli 1960

VIII

Bij het meten van de groepscohaesie kan niet worden volstaan met het bepalen van het relatieve aantal wederkerige attracties, zonder daarbij rekening te houden met de intensiteit waarmee de groepsleden deze interpersonale relaties beleven.

IX

De practica in de psychologie-opleiding dienen niet beperkt te blijven tot de klassieke psychologische experimenten; het is gewenst daarnaast aandacht te besteden aan het systematisch observeren van menselijke gedragswijzen in de alledaagse werkelijkheid.

X

Voor de ontwikkeling van de psychologie als wetenschap kan het gebruik van modellen belangrijk zijn:

a. een model biedt de mogelijkheid tot een beknopte weergave en logische ordening van reeds verworven kennis betreffende een omschreven onderzoekingsgebied,

b. een model leent zich bij uitstek tot afleiding van scherp gestelde hypothesen die richtinggevend zijn voor verder onderzoek.

XI

De uitvoerbaarheid van experimenten, die een toetsing van de invloed van de afzonderlijk en samen voorkomende interveniërende variabelen in de modellen van E. C. Tolman mogelijk zouden maken, is dubieus.

Vgl. E. C. Tolman, Principles of purposive behaviour. In: S. Koch (ed.), *Psychology, a study of a science* (Study I, Volume 2, p. 92—157). New York: McGraw-Hill Book Comp., Inc., 1959.

XII

De behoefte aan ontwikkeling van een beroepsethiek voor psychologen wordt dringender naarmate de toegepaste psychologie van meer betekenis wordt voor het maatschappelijk leven.